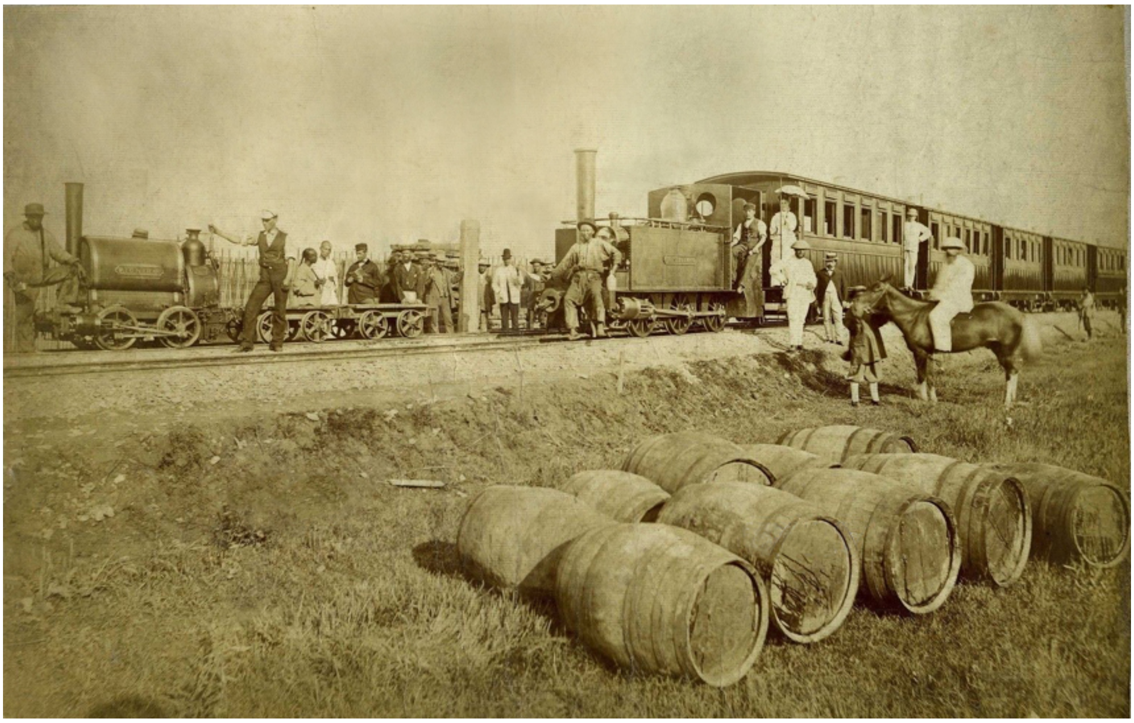
Early Chinese Narrow Gauge Railways - Part 1

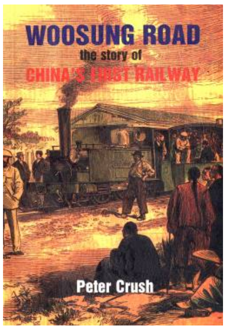
(Peter Crush [柯睿思])

The "Woosung Road"

The abortive 2 ft. 6 in. (762 mm) gauged Shanghai - Wusong Railway (a.k.a. "Woosung Road")[1] utilizing Ransomes & Rapier locomotives and carriages built by the Bristol Wagon & Carriage Works has been well-documented over the years in a number of Chinese and foreign language publications. This 9.5 mile (14.5 km) short stretch of line was constructed by a foreign business consortium during 1876 but having failed to receive official authorization from the Chinese government the company was compelled to shut down the line in October 1877, whereupon the track was lifted. [2]



The "Woosung Road" in June 1876 shortly before the opening of the line in Shanghai.
On the left is construction engine "PIONEER" and centre is "CELESTIAL EMPIRE"
hauling the passenger carriages. [3]



I will not repeat the history of this railway in this paper[4] but do include some higher resolution images of the locomotives and additional information which were unavailable to me at the time of research conducted prior to publication of the "Woosung Road" book of 1999 :-

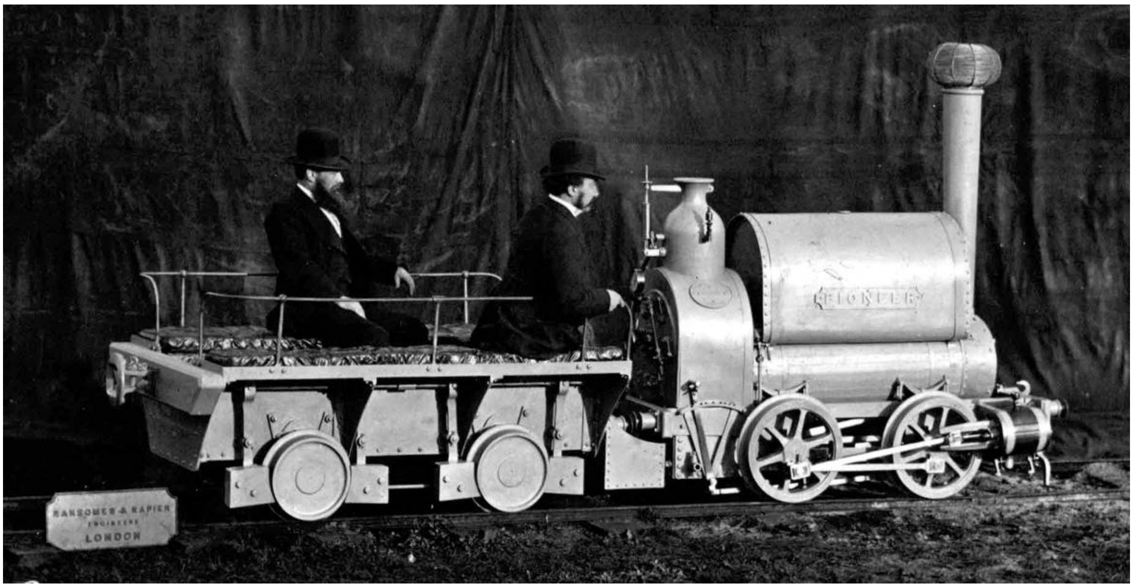
---

[1] Woosung Road in Chinese is 吴淞路 (Wusong Lu) . The company constructing it, deceptively omitted to refer to it as a "railroad" (铁路) in their documents and in correspondence with the Chinese authorities.

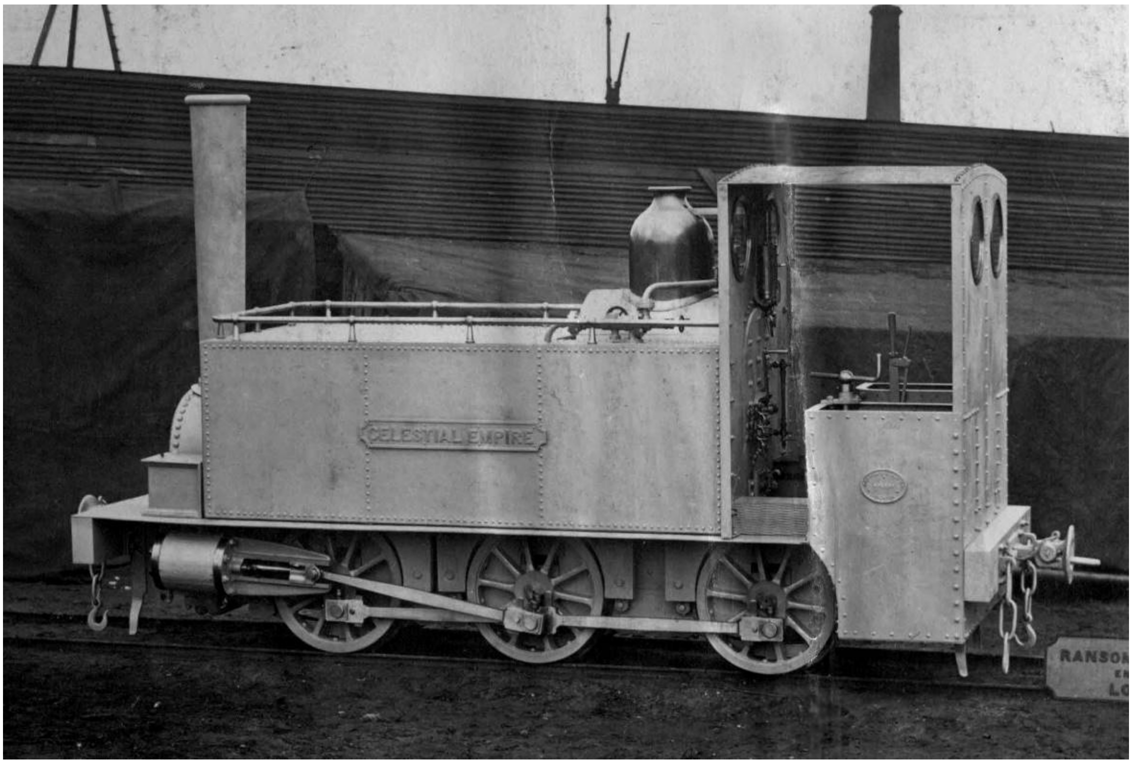
[2] "Woosung Road - the Story of China's First Railway" - Peter Crush, Hong Kong ,1999 - ISBN 962-85532-1-6

[3] Photograph by L. F. Fisler , active in Shanghai 1866-1887. (See *Remunerative Railways for New Countries*, by Richard C. Rapier , 1878)

[4] For one detailed account, readers may read "Woosung Road" by this author which has been published in full on this Researchgate website at : https://www.researchgate.net/profile/Peter-Crush/publications



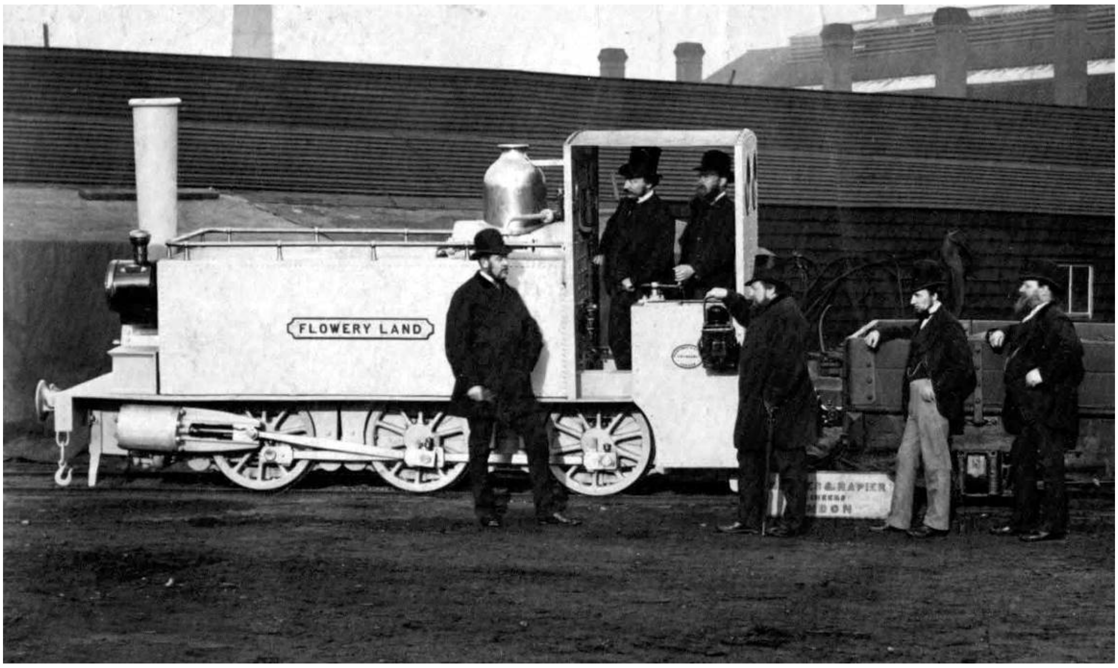
0-2-0 saddle tank “Pioneer” at the Ransome & Rapier Waterside Works at Ipswich, England in 1875. The engine, originally constructed in 1874 as 24-inch gauge, had been modified to 30-inch gauge with larger cylinders & new wheels.[5]



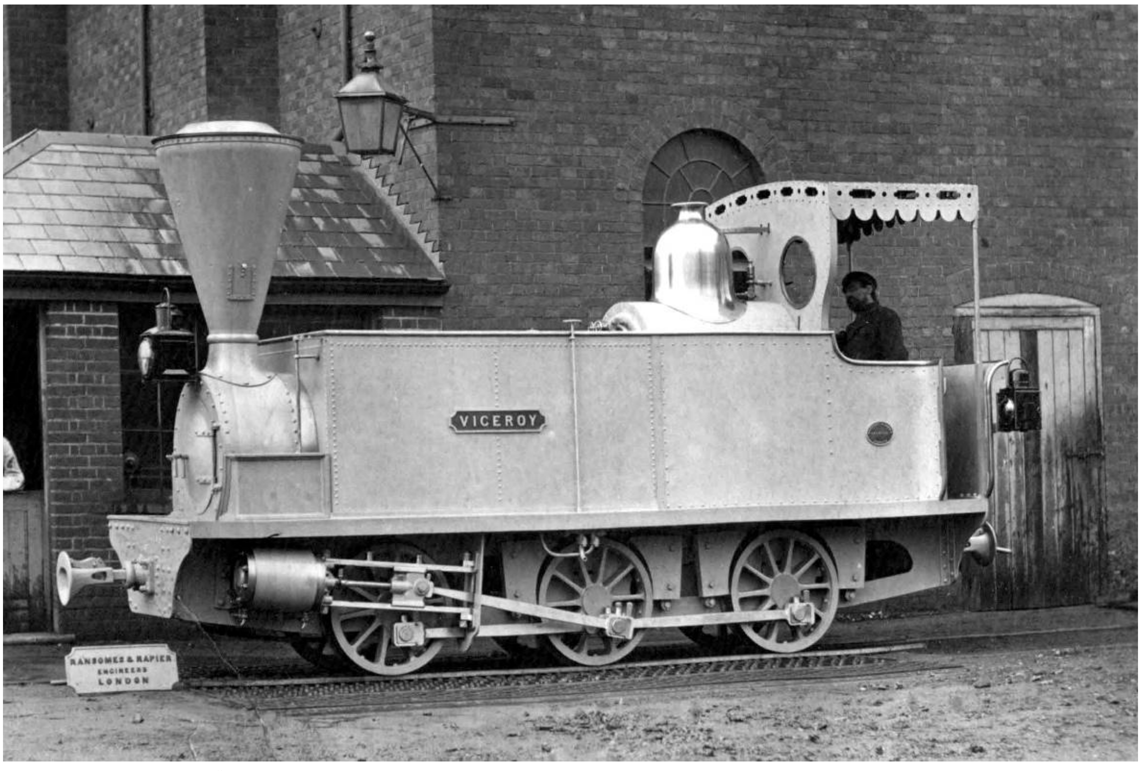
0-6-0 “Celestial Empire” at the Ransomes and Rapier Waterside Works in 1875

---

[5] The additional information was kindly provided by Keith Halton, who with Chris Fisher authored a history of *Ransomes and Rapier Locomotives*. published c. 2000 by the Narrow Gauge Railway Society of Gt. Britain.



0-6-0 "Flowery Land" at the Ransomes and Rapier Waterside Works in 1876



0-6-0 "Viceroy" at the Ransomes and Rapier Waterside Works in 1877. The locomotive arrived in Shanghai only about one month before the railway was shut down

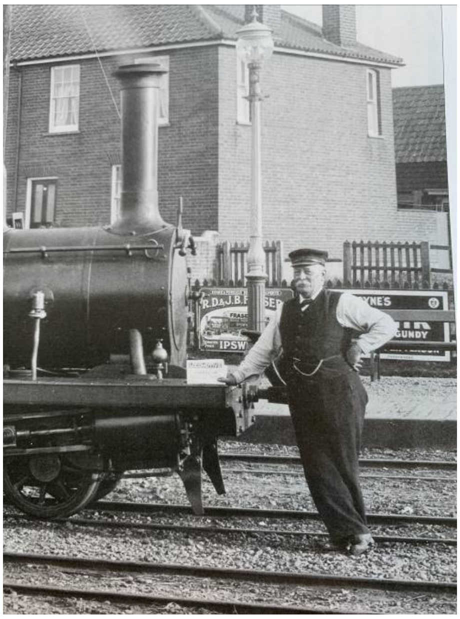
Following the railway closure in October 1877 the equipment was shipped to Taiwanfu[6] (Tainan) in Taiwan where it rapidly deteriorated without adequate protection from the climate. However, in 1883 it was eventually shipped to Port Arthur (Lushun) for harbour improvements and military defence works.[7] Further evidence of this is suggested in a short report in the “Chinese Mail” of 26 January 1886 recording a head-on collision between two locomotives at Port Arthur “a month earlier”. These locomotives are likely to have been the ex-Wusong engines.

---

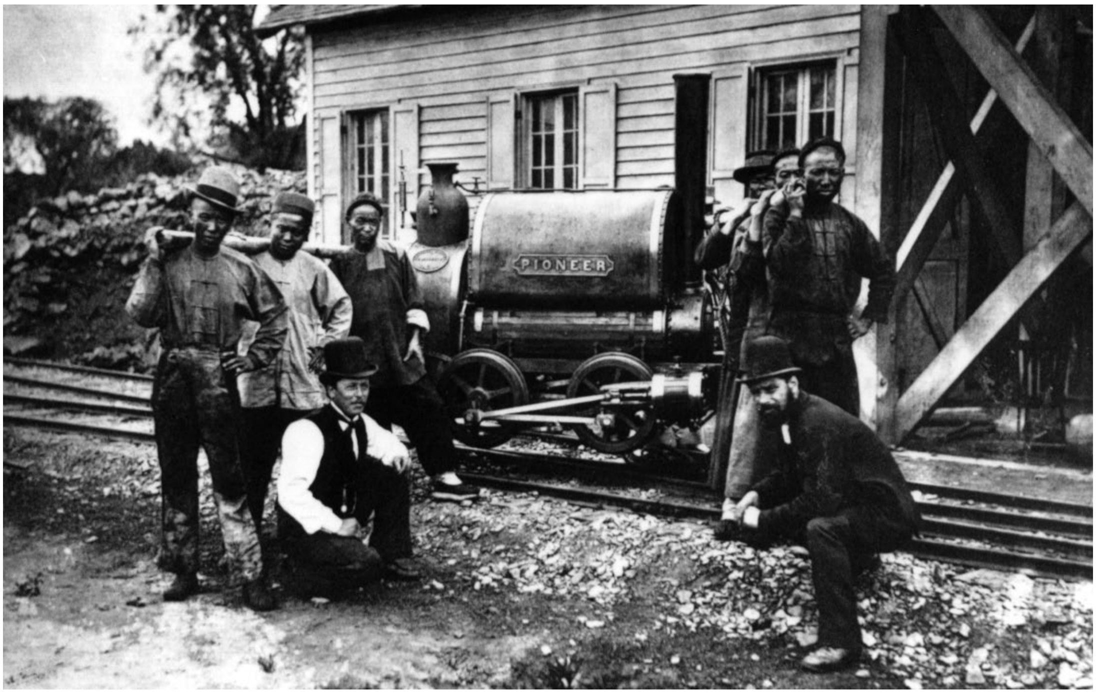
[6] Taiwanfu (台湾府) was the historic name for today's Tainan

[7] This is recorded in "Taiwan Railway Stations – Looking Back from the Qing Dynasty 重回清代臺北車站：古鐵道和一座謎樣的火車站" by Taiwan railway historian WU Hseao-hung (吴小虹, published in Taiwan 2006

William George Jackson - China’s First Locomotive Driver


William G. Jackson on the Southwold Railway

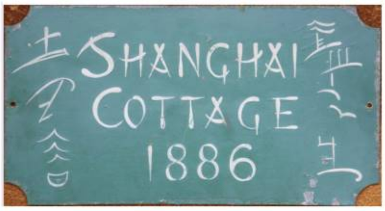
In the list of foreign employees of the Woosung Road Company mention is made of William George Jackson, who was engine driver and the head of the locomotive department. Since there were only two other staff members[8] who also drove the engines during the railway’s brief existence, it is certain that Jackson appears in the surviving photographs taken in Shanghai. It is known that following the closure of the railway, he returned to England and was employed supervising construction of the 3ft-gauge Southwold Line in Suffolk. He continued to have a long a career on this railway, including the head of the locomotive department and other supervisory tasks.



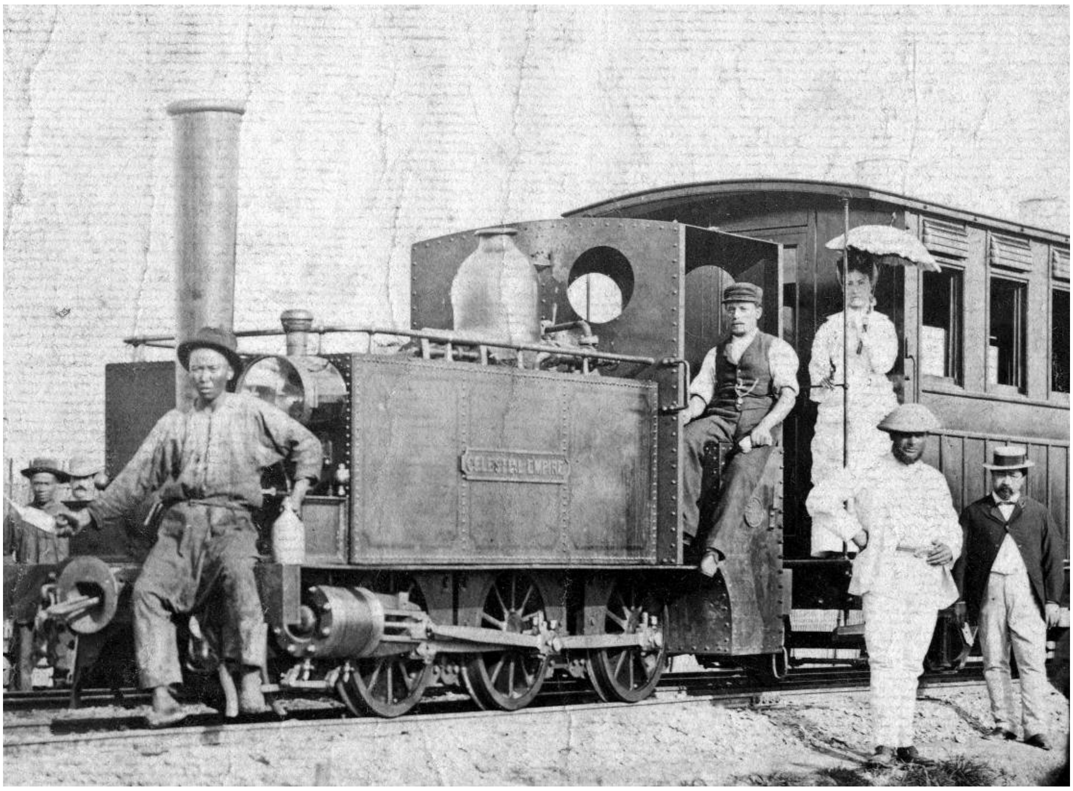
Pioneer”, supported on long bamboo poles, being carried for its first test run near Shanghai on 14th February 1876. Kneeling down on the left is believed to be the same man who appears to be driving “Celestial Empire” in June 1876.

---

[8] David Edward Banks & George Sadler



When Jackson moved to Southwold in England, he occupied a cottage close to the railway and press reports at the time included stories about the house occupied by Jackson being adorned by a name plate "Shanghai" including "strange Chinese characters" Long after the railway closed a volunteer researcher for Suffolk Museums tried to establish whether this story was ever true. Recently there was a "Eureka" moment when the original cottage name plate was discovered, having been long-hidden under a pile of uncatalogued antiquities.[9]



The driver of "Celestial Empire" has by process of elimination been identified as William George Jackson, who later had a long career on the Southold Railway.

It was some four years later before the surreptitiously constructed standard-gauge Tangshan - Xugezhuang[10] coal mine railway (a.k.a. "Kaiping Tramway") was built during the winter of 1881-1882 in a remote district of Northern China and succeeded in gaining a foothold. This was achieved by first using a locally constructed 2-4-0 tank locomotive, cobbled together from spare mining machinery and other scrap components. It was named the "*Rocket of China*" with deference to England's famous locomotive, "Rocket". However, this name meant little to the local Chinese workforce who soon gave their own name "the Dragon" to this fire and smoke-puffing beast.[11] It was followed in October 1882 by the importation of two 0-6-0 tank locomotives from England, an order which was placed with Robert Stephenson & Sons of Newcastle.[12]

---

[9] I am grateful to John Mann, a volunteer for Suffolk Museums, who provided the picture of Jackson on the Southwold railway and the "Shanghai" cottage name plate. J. Mann and the author collaborated in identifying Jackson in the various photographs above. I am unable to decipher the Chinese script written on the metal plate other than the upper left character "上".

[10] Xugezhuang (胥各庄) was Romanized as " Hsukochwang or Sukochwang " in early European documents and maps.

A very rare photograph of Li Hung Chang (李鸿章 *Li Hongzhang*) with the Duke of Devonshire. Taken during Li's visit to England during August 1896.

The key to this railway's survival was that it was owned and operated by Chinese as opposed to foreign-controlled interests and was aided by the fact that the directors and shareholders had close personal ties to the powerful statesman, LI Hung-chang (*Li Hongzhang* 李鸿章)[13]. This was sufficient to deter junior government officials from venturing too close and formally verifying the railway's existence. What was not seen "could not possibly exist", if queried by higher authority.

In 1886 the railway's Chinese directors finally received the Qing Dynasty Imperial Court's approval for the extension of their railway as a joint coal and passenger service to nearby Lutai. From here coal output from the mine could be loaded onto river junks for delivery to the nearby large city of Tientsin (*Tianjin*). Only a short time later the conservative Qing dynasty government officials, who until that moment had been opposing railway development for two decades, capitulated and railway expansion within China began in earnest. [14]

Foreign railway equipment manufacturers took little time in mounting their sales pitches in China and this included the French Decauville railway manufacturer which produced light industrial and military railways. Paul Decauville, the company's founder, had experimented with a number of narrow-gauge widths but eventually settled on 600mm gauge rail track attached to metal sleepers, enabling lengths of pre-constructed portable railway lines to be laid down very quickly.

The Tianjin Decauville Trial of 1886

In November 1886 Gaston Galy, Decauville's representative for China, arrived in Tientsin (Tianjin) on a sales expedition having earlier failed to attract much attention in Canton (Guangzhou) and Hong Kong. He brought with him a set of demonstration miniature railway equipment including a locomotive, some carriages and track. He had also signed an agreement with the British trading company Jardine Matheson to co-operate in an attempt sell miniature railway equipment to the Chinese government. [15] This included a failed attempt to sell a complete set of railway materials so that the Imperial Western Gardens (*Xiyuan*) and lakes abutting the Forbidden City might have a private "toy" railway for the enjoyment of the Emperor. This railway was subsequently built but with equipment from a different supplier, named Thevenet [16] who managed to sneak in and secure the contract with a cheaper deal than Galy and Jardines were prepared to offer.[17]

---

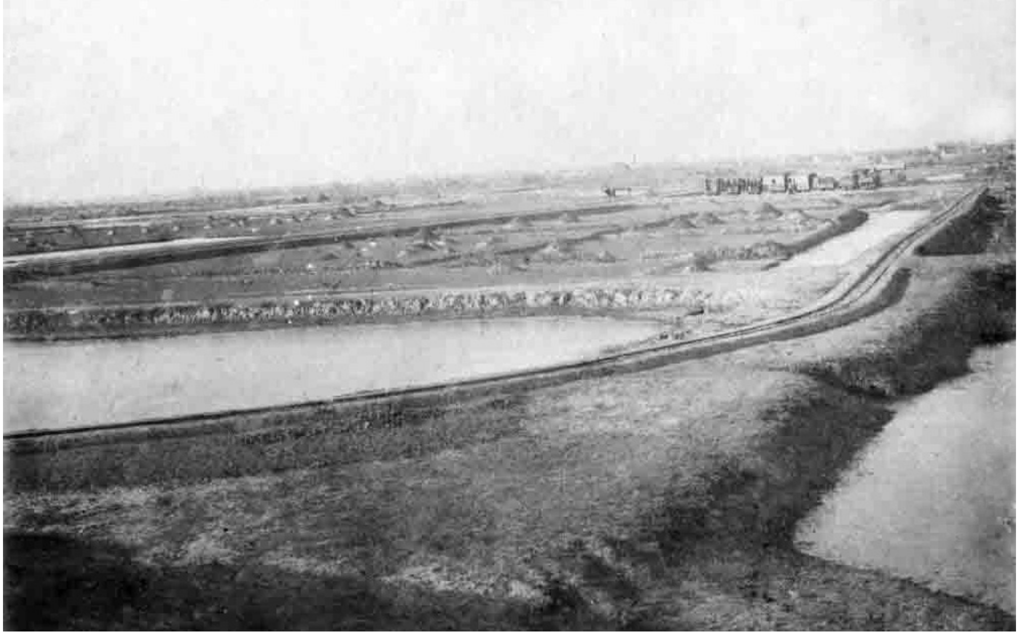
[11] "Dragon" in Chinese is 龙号 ("Long" hao). A pair of brass Chinese dragons were soon afterwards added to the either side of the locomotive's side water tanks. See "Imperial Railways of North China" - Peter Crush, published by Xinhua, Beijing , 2013, ISBN 978-7-5166-0564-6

[12] Ibid : "Imperial Railways of North China" – P. Crush.

[13] Li Hongzhang was Governor-General of Chihli (Zhili 直隶) Province . Europeans invariably referred to the Provincial Governor-General as the "Viceroy"

[14] Ibid: "Imperial Railways of North China" , P. Crush

In late November 1886 Tianjin newspapers reported that the Decauville line built by Monsieur Galy had been inaugurated on 21 November and that Viceroy Li Hung-chang (*Li Hongzhang*) had visited the line with an entourage of both Chinese officials, consular officials and Tianjin foreign settlement officials. An oval circuit of about 3km of track had been laid on grounds adjacent to the private residence of Mr Tseng Lai- sun (曾蘭生 *Zeng Lansheng* [18]) who was Viceroy Li's English interpreter.[19]



The Decauville temporary track laid on muddy flats near Tianjin. In the distance the small demonstration train, headed by a locomotive with tender is just visible.

Several descriptions of the event were published in local newspapers and while the descriptions vary, the consensus was that there had been one locomotive, four passenger carriages and a "luggage" wagon. Two months later back in Paris, the fashionable " *L'Illustration - Journal Universe* " published an article reporting the event which including a much-embellished full-page engraving.[20]

---

[15] "The Thistle & The Jade - A Celebration of 150 Years of Jardine Matheson & Co." , Edited by Maggie Keswick. 1982

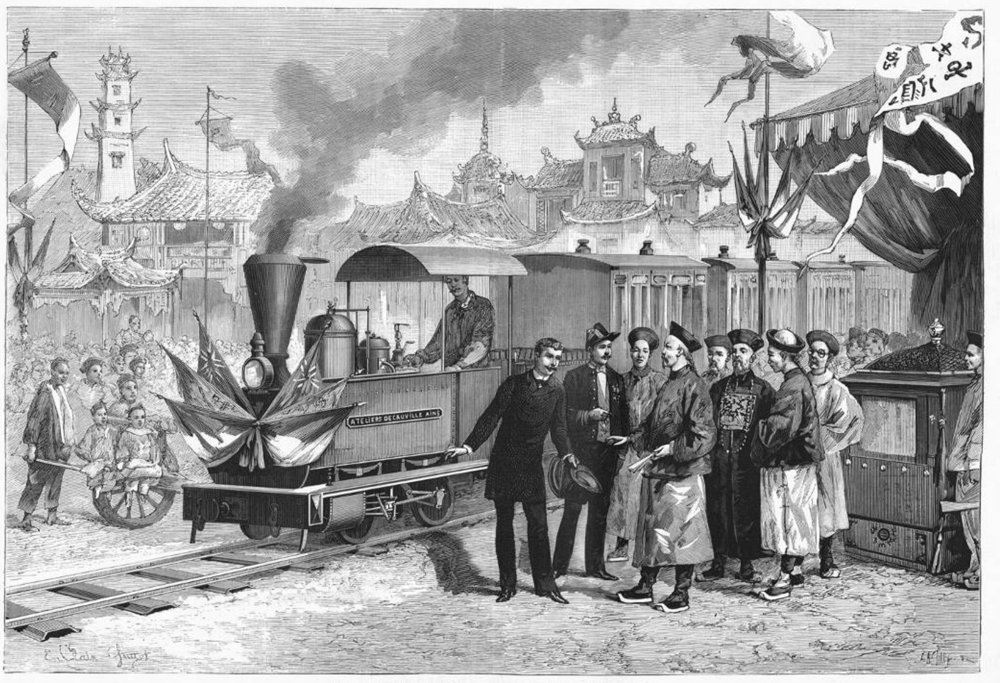
[16] At this time, Theveret was serving as Engineering Director of harbour improvements works at Port Arthur (Lushun) (1888 Chronicle & Directory for China, Corea, Japan etc.)

[17] North China Daily News" 4 Oct 1887 and 2 April 1887

[18] Zeng Lansheng was born in Singapore c.1826 , the son of a Guangdong native farmer & Malay mother. Orphaned at a young age, he was educated by American missionaries and later sent for schooling in USA. Upon returning to China he worked for European businesses in Hong Kong & Guangzhou before moving to Shanghai, where he became an interpreter for Li Hongzhang's business interests.

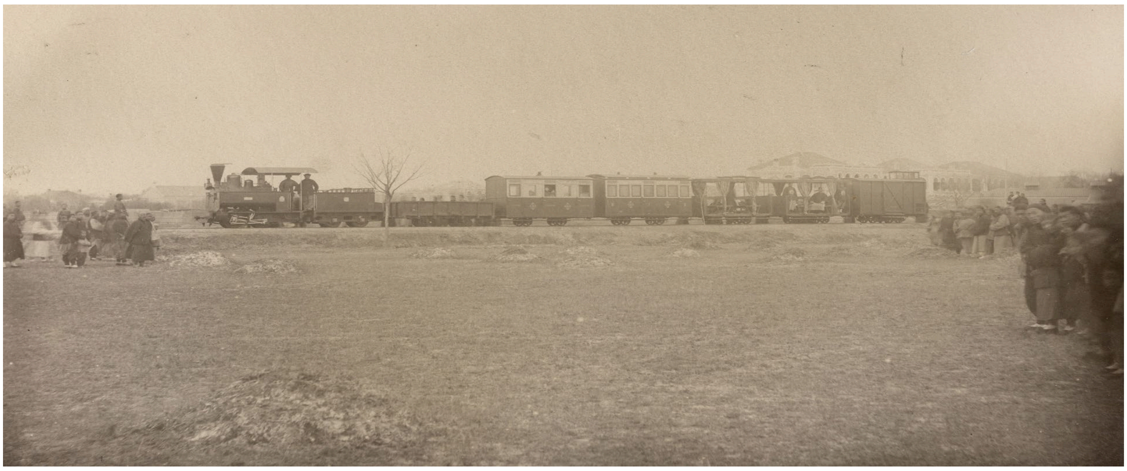
[19] The Chinese Times, 27 Nov 1886 & Dec 25 1886

[20] "L'Illustration - Journal Universe"**,** published in Paris. Vol LXXXIX No.2294, Samedi 12 Fevrier 1887. Author's collection



LES PREMIERS CHEMINS DE FER FRANÇAIS EN CHINE
INAUGURATION DE LA LIGNE DE TIEN-TSIN A TSCHING-YANG, LE 20 NOVEMBRE 1886

The French artist who engraved this inauguration picture embellished the scene by adding ornate Chinese pagodas, towers and temple buildings with a host of Chinese mandarin officials dressed in splendid silk gowns. Adorning the front of the engine were six flags, which included those of France, China, & Great Britain according to contemporary press reports. The locomotive side-tank bears a long metal name plate proclaiming that the engine had been built by "Ateliers Decauville Aine", but was this truly the case? Early locomotive production records for Decauville are sketchy to say the least. One works list does include a locomotive which more likely fits the bill: "*Works No. 26 despatched 25.11.89*" but was actually built by the Belgian Couillet Works as No. 740 of 1884 and attributed to Transport des Voyageurs en Chine and to Société des Mines de Bormettes.[21]



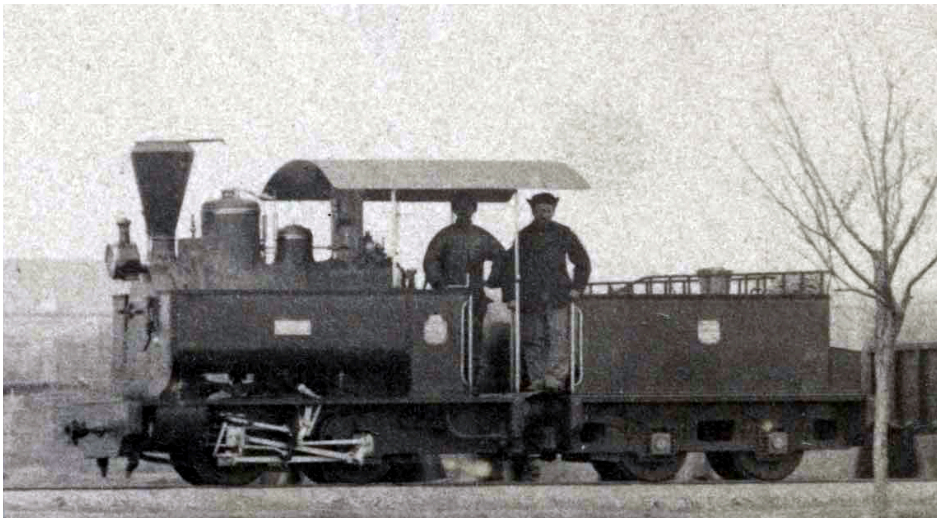
The Decauville train at Tianjin. Headed by an 0-4-0 wood-burning locomotive with tender. The train consisted of an open wagon, two enclosed and two open passenger carriages plus a freight car.[22]

---

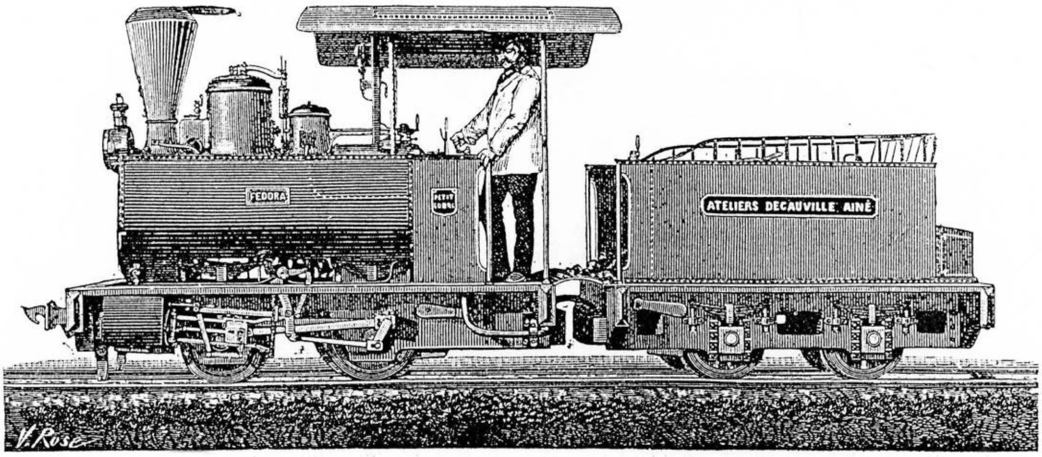
[21] Information derived from Decauville Works List by K.W. Clingan & J. G Lanham (published by the Industrial Railway Society, 1995) & surviving Decauville catalogues. I thank Jeff Langham, Robert Pritchard , Robin Gibbons, Bob Koch & others for their suggestions. The consensus is that this engine was probably built & supplied by Couillet (No. 740 of 1884) for the Decauville company.

[22] Photograph: Author's collection.

Recently a newly discovered rare picture came to light which was acquired by the writer from a dealer. This provides the clearest, to-date, visual record of this 1886 Decauville trial railway.



An enlargement of the locomotive clearly shows that we are looking at what is almost certainly a Couillet-built engine with the name and builders plates matching the shape of those engines affixed to Decauville's engines in its early days. There is further evidence provided in the 1887 Decauville catalogue which advises that the third engine built for the company was a 600 mm gauge "FEDORA" type locomotive weighing 4 tonnes unloaded and 5 tonnes "en ordre de marche" (provisioned with fuel and water). Their Register for the period 1880-1885 indicates all these early engines were supplied by Couillet.[23]



Type nº 3 de 5 T. à vide (6 T. en marche), avec cabine pour les pays chauds, foyer à brûler bois ou charbon et cheminée américaine, pouvant avec son tender conduire un train de 15 tonnes à 50 kilomètres en 2 heures et demie sans arrêter.

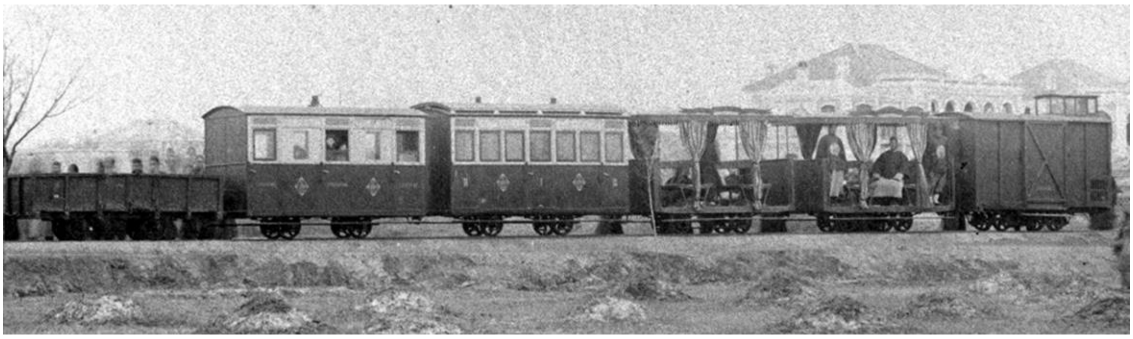
Decauville Type 3 ("FEDORA") constructed by Couillet for Decauville, as illustrated in an 1887 Decauville catalogue. The design of the engine matches perfectly with the one seen at the Tianjin trial with the exception of the builder's plates.[24]

---

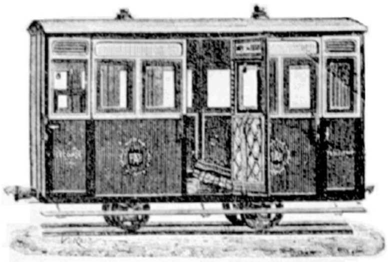
[23] "Decauville - ce niom qui fit le tour du monde", Roger Bailly 1989

[24] There is a small discrepancy concerning the weight of this engine in various publications

There are preserved 500mm and 600 mm gauge locomotives of broad similarity in a military depot museum at Tancos, Portugal and another (works plate No. 43 illustrated above) at the Puffing Billy Railway near Melbourne respectively.[25]



Enlarging the train shows there are people riding in the front open wagon. This is followed by the two enclosed passenger coaches with I and II class markings on the doors of the second coach. The three doors of the preceding coach have illegible markings but the description in the French magazine *L'Illustration* reveals that there were "Premiere" (1st) , 2nd., 3rd. and 4th Class accommodation. In the rear open-sided passenger coach are two figures, one seated, perhaps those of Zeng Lansheng and another silk-robed Chinese official. In the background is a Western style two-storey building, unlike the temple-style buildings depicted on the engraving. This would be Tseng's private residence.



Type D, voiture mixte de 1re et 3e classe (poids 1,350 kilos).

A sales promotion sheet issued during the Paris Universal Exhibition of 1889 indicated that carriages came with two "demi-compartiments" each seating three passengers, accessed from the front and rear doors. The centre door opened to a full compartment seating six. There were options for these to be for 1st, 2nd or 3rd class accommodation or a combination of all three classes within the separate sections. The second enclosed carriage in the Tianjin photograph would appear to be one of mixed classed compartments similar to the supplier's type "D" option. [26]

His Excellency Sir Chih-Chen Lo-Feng-Luh,
Chinese Minister.

At the inauguration of the line we are told that Viceroy Li Hongzhang, who arrived in his palanquin, was accompanied by Gustaf Dietring the German-born Chinese Commissioner of Customs for Tianjin and who was concurrently the "Salt Commissioner".[27] Also in the entourage was the Tianjin Taotai, Lo Feng Luh (罗丰禄 *Luo Fenglu*) who was later knighted by the British as "SIr Chih Chen Lo Feng Luh" when appointed as China's Envoy to London in 1899. In the party were also

---

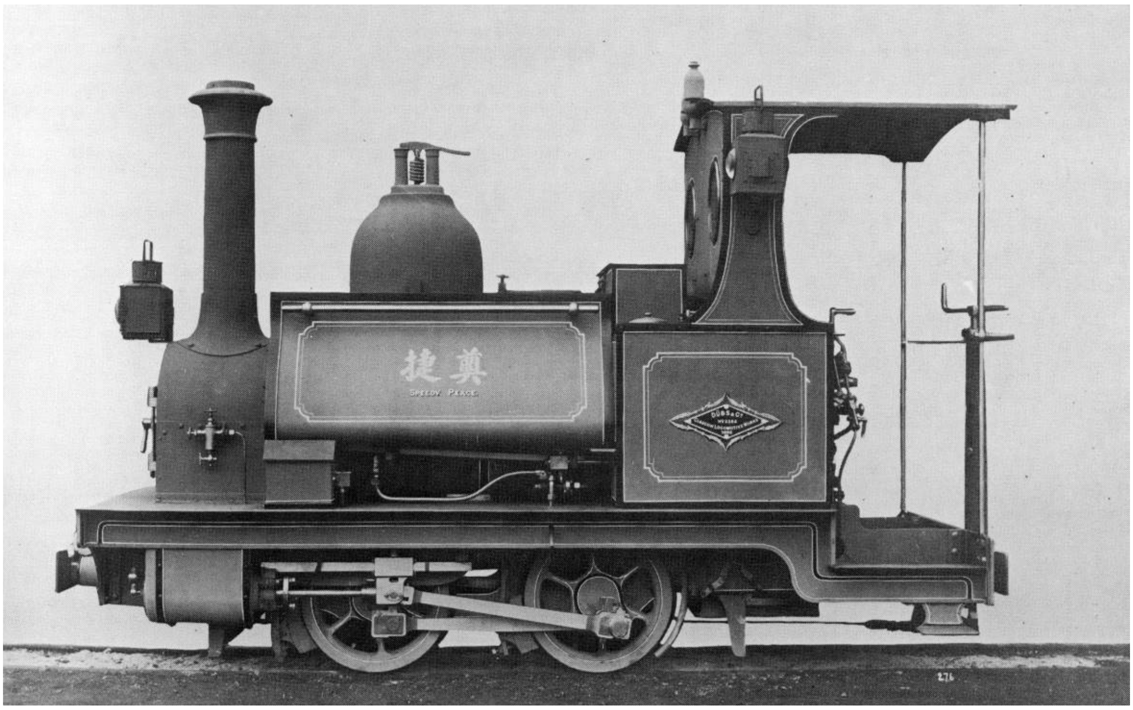
[25] Photographs of these may be downloaded by searching: "Tancos" http://www.internationalsteam.co.uk/trains/portugal03.htm and http://members.ozemail.com.au/~telica/Puffing_Billy_Gasworks_loco_Carbon.html

[26] 1953 anniversary for the establishment of Société Novelle des Établissements Decauville Ainé - booklet.

[27] Dietring was also Chairman of the Tianjin Municipal Council and had extensive business interests. He was an advisor to Li Hongzhang on foreign affairs and amassed great wealth. The Qing Dynasty government gave him a large piece of land on which he erected a house the size and splendour of a royal palace.

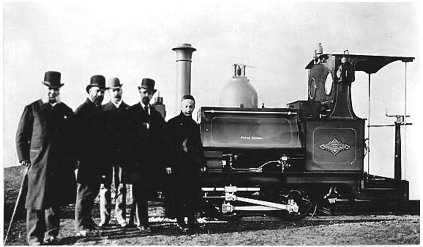
Monsieur P. Ristelhueber the French Consul for Tianjin and of course Decauville's engineer Gaston Galy.

The railway continued to operate as an entertainment for local residents for about one month, charging 30 cents for 1st class, 20cents for 2nd class, and 10 & 5 cents respectively for 3rd and 4th class tickets. The locomotive & rolling stock were then sold to the Tientsin Municipal Council for the purpose of earthworks and transporting materials for the construction of a new Town Hall. Later in 1892 the railway equipment was disposed of at a small loss[28].



600 mm gauge 0-4-0 tank locomotive "Speedy Peace" (Works No. 2254) built by Dubs of Glasgow in 1886

The directors of Jardine Matheson were particularly annoyed by the failure of Galy to secure sales contracts in China, having committed a significant amount of expenditure by placing an order for two 1 ft -11] in. gauge (600 mm) 0-4-0 tank locomotives from the Dübs Locomotive Works of Glasgow.[29] These two engines were given the names "Speedy Peace" (奠捷) and " Flying Victory". What is not clear, however, is where these engines finally ended up being delivered to. The surviving photograph together with the French magazine's engraving and description make abundantly clear that the Dubs locomotives ordered by Jardines were not used for the Tianjin demonstration in 1886. Solving this riddle could provide an interesting research project for anyone with the time on hand and enthusiasm to persevere.[30]



DÜBS & COMPANY.
FIRST LOCOMOTIVES BUILT FOR CHINA, 1886.
GAUGE - 1'11/5/8ths" WEIGHT - 6/3/4 tons
CYLINDERS - 5" × 10" WHEELS - 2 feet
NO. 1 "SPEEDY PEACE". NO. 2 "FLYING VICTORY".

---

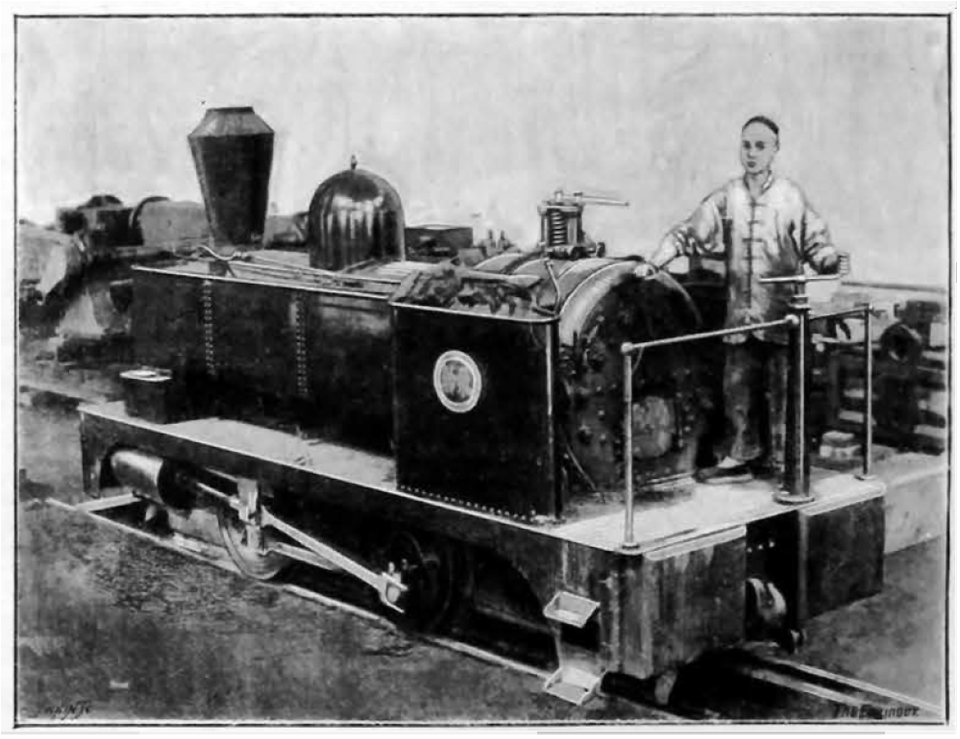
[28] Tientsin Municipal Council Report, 'North China Herald' 24 January 1892

[29] "The Thistle and the Jade – A Celebration of 150 Years of Jardine, Matheson & Co." 1982, edited by Maggie Keswick

[30] The answer might lay in the Jardine Matheson Company Archive held by the University of Cambridge.

One or two modern sources suggest that these engines were shipped to China and eventually sold for construction use on building extensions of the standard-gauge Kaiping coal line at Tangshan, which was later to evolve into the Beijing-Shenyang Railway (Peking-Mukden "PMR"). However, there has been no evidence presented to support this theory and not even one picture of the considerable numbers of surviving photographs shows the use of narrow-gauge construction trains.

The "Real First Locomotive" built in China



C.W. Kinder's "*Rocket of China*" is accepted as the first steam locomotive constructed in China in 1881 even though one or two Chinese railway 'experts' still cling to an unfactual and discredited claim that the improvised and temporary "*Grasshopper*"[31], crudely constructed in 1900 by British military engineers, preceded Kinder's engine. However, that claim is not the only such claim that Kinder's engine was not "China's first".

In 1890 an unidentified writer in the 20 May 1898 edition of "*The Engineer*" claimed that Kinder's engine did not qualify to be called "built in China" because it was made of scrap materials from machinery made overseas. The writer claims that a "Mr.Bunt"[32], whom I suspect was the writer's superior, had in August 1890 built from scratch an 0-4-0 tank engine for the Kiangnan Arsenal in Shanghai. The locomotive was 14 ft. - 9 inches in length, had 2ft - 6 inch diameter wheels, 9.75 inch cylinders with a 15-inch stroke and was of 24-inch gauge, suitable for the arsenal’s internal tramway system. Moreover, this writer claimed that all the components “except for a few minor bits and pieces” were fabricated in-house, thus invalidating the claim that the Rocket of China was the first “real” China-built engine. Most machinery manufacturers use components from other suppliers so I personally do not accept this writer’s claim that the “Rocket of China” was not the first locomotive made in China. Even he admits that some parts were obtained elsewhere.

---

[31] See *The Mystery of An Early "Chinese" Engine* by Peter Crush : https://www.researchgate.net/profile/Peter-Crush/publication

[32] The 1889 edition of the Directory & Chronicle for China, Japan, Corea, Indo-China, etc., etc. lists Thomas Bunt as the Superintendent Engineer at the Kiangnan (江南 *Jiangnan*) Arsenal in Shanghai. The Chinese name for this arsenal was 江南机器制造总局 (usually abbreviated to the equivalent of Jiangnan Machine Works)

I will call upon the jury of my readers to discuss the merits of this claim and come to a verdict if possible.

Part 2 of this series, will take a look at the Chinese Emperor’s Palace Railway.

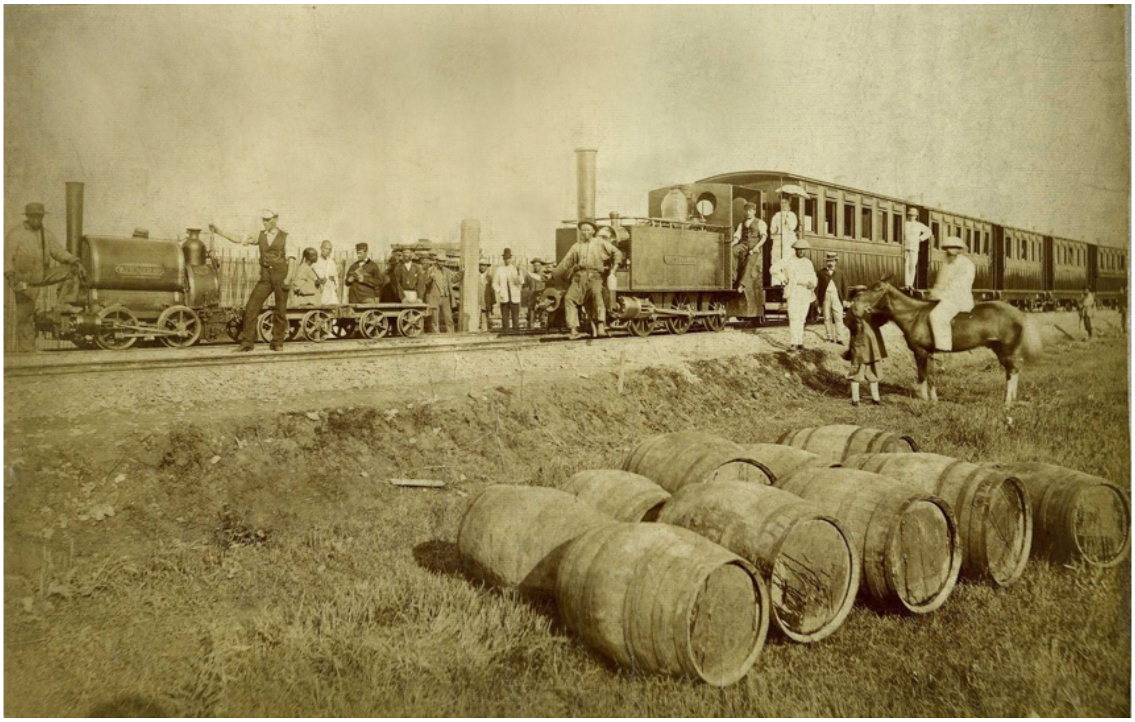
在营运性准轨铁路大量出现于中国之前的19世纪末期，曾有过几条窄轨铁路在这片土地上短暂地停留过。他们其中的有些铁路在近些年的各类文献书籍中被时常提及，但其中的多数则早已湮没于历史之中而不为人知。历经多年的史料收集与研究，柯睿思将通过《中国早期窄轨铁路》系列文章，讲述各条窄轨铁路的兴衰历史。

中国早期窄轨铁路（一）

作者：Peter Crush [柯睿思]　　　翻译：Baiyu Shang [尚白宇]

一，　吴淞铁路

轨距为762mm，全长仅为14.5公里的吴淞铁路（又称吴淞路[1]）是中国历史上的第一条运营性铁路。该路连通上海的外国租界区与商船码头所在的吴淞港，于1876年由英国商团在未经大清政府许可的情况下征地兴建，并最终被大清政府于1877年赎回并全部拆除[2]。因为其作为中国第一条铁路运营性的历史地位，吴淞铁路的发展沿革，在大量中外出版物中都有被详细记述。



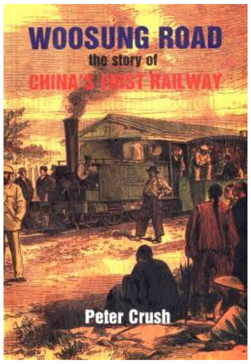
吴淞铁路于1876年6月开通之后的情形。照片左侧的机车为“先导号”，中间位置牵引客车厢的机车为“天朝号”。[3]

---

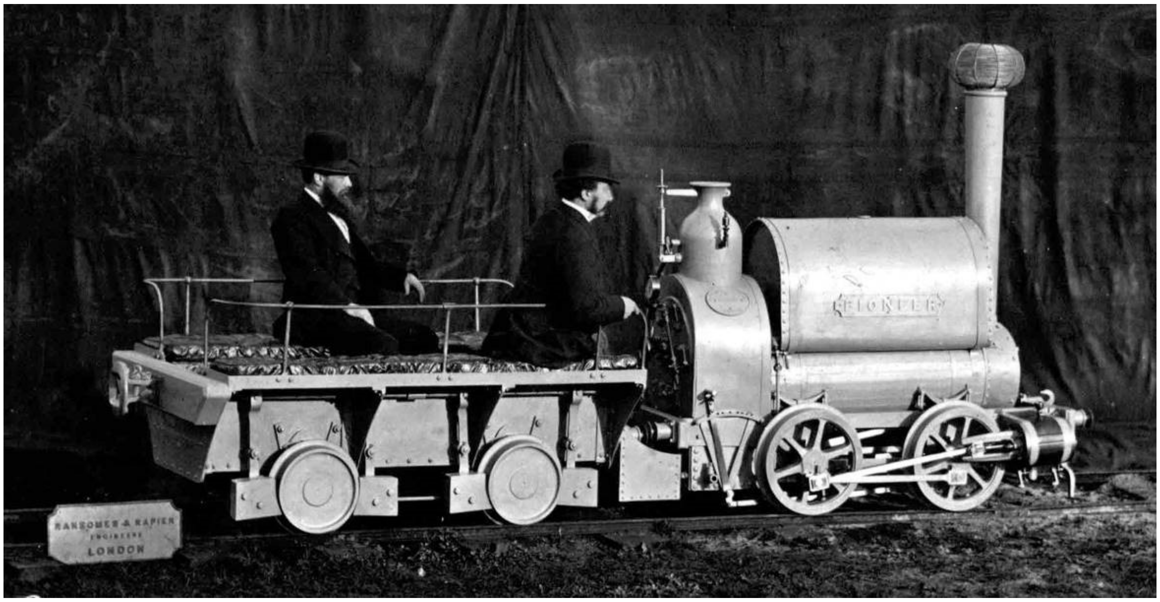
[1] 因大清政府不允修筑铁路，英商为混淆视听，在与清廷往来的公文中都以“吴淞路”指代“吴淞铁路”。

[2] 参阅：柯睿思：《吴淞铁路》，香港，1999，ISBN 962-85532-1-6。

[3] 照片来自1866-1887年活跃于上海的L. F. Fisler。



我已在我 1999 年出版的《吴淞铁路》（*Woosung Road-The Story of China's First Railway*）一书中详细记述了该路的起源、发展、与结局，所以在本文[4]中我将不再复述吴淞铁路的历史故事。该路所使用的机车皆由位于英格兰伊普斯威奇的兰塞姆工厂生产，四台机车分别被命名为“先导号”、“天朝号”、“华国号”、和“总督号”。我在出版《吴淞铁路》一书之后，又有幸找到了这四台机车的更多资料与照片：

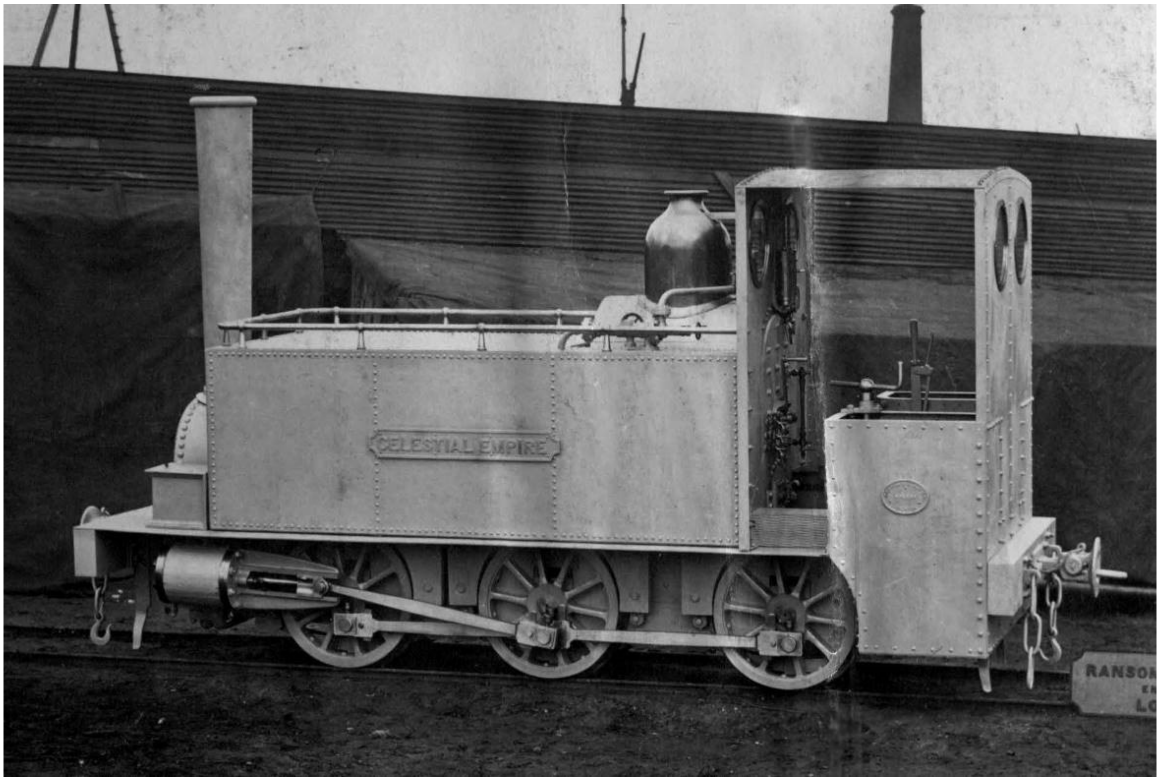


0-4-0 式“先导号”机车于 1875 年在兰塞姆工厂拍摄的产品照片。该机车于 1874 年完工之时的轨距为 24 英寸（610mm），后经换装更大尺寸的气阀装置，将轨距扩大为 30 英寸（762mm）。[5]

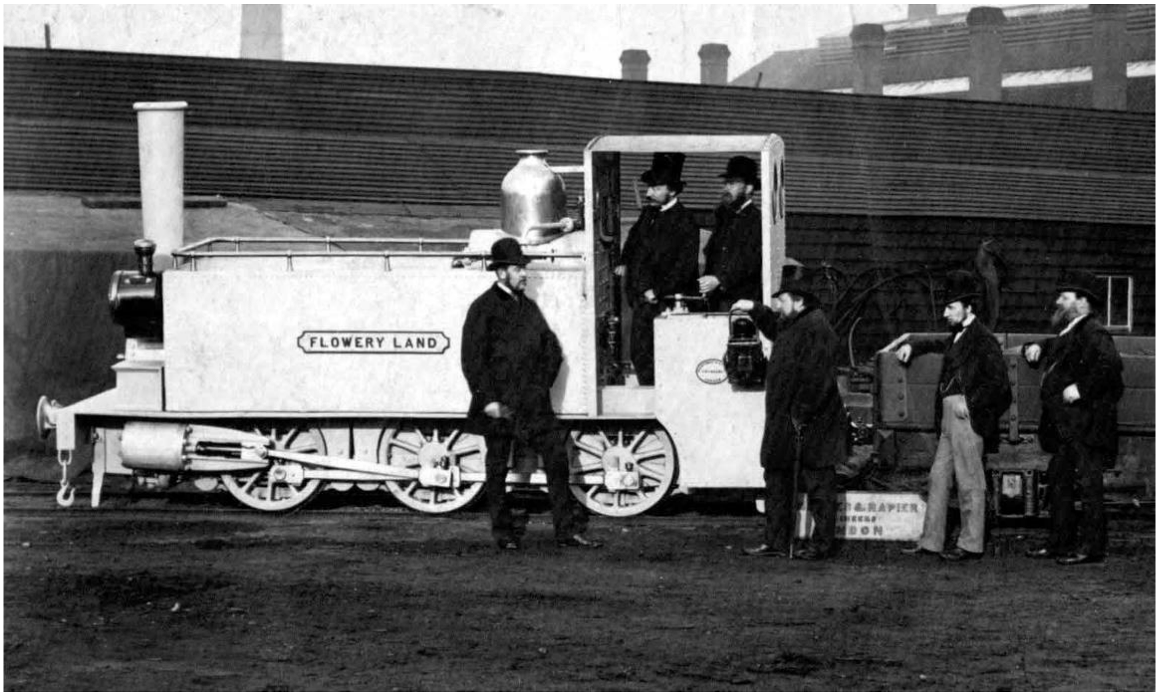
---

[4] 本文作者所著《吴淞铁路》已全文发布在作者的个人页面上：https://www.researchgate.net/profile/Peter-Crush/publications

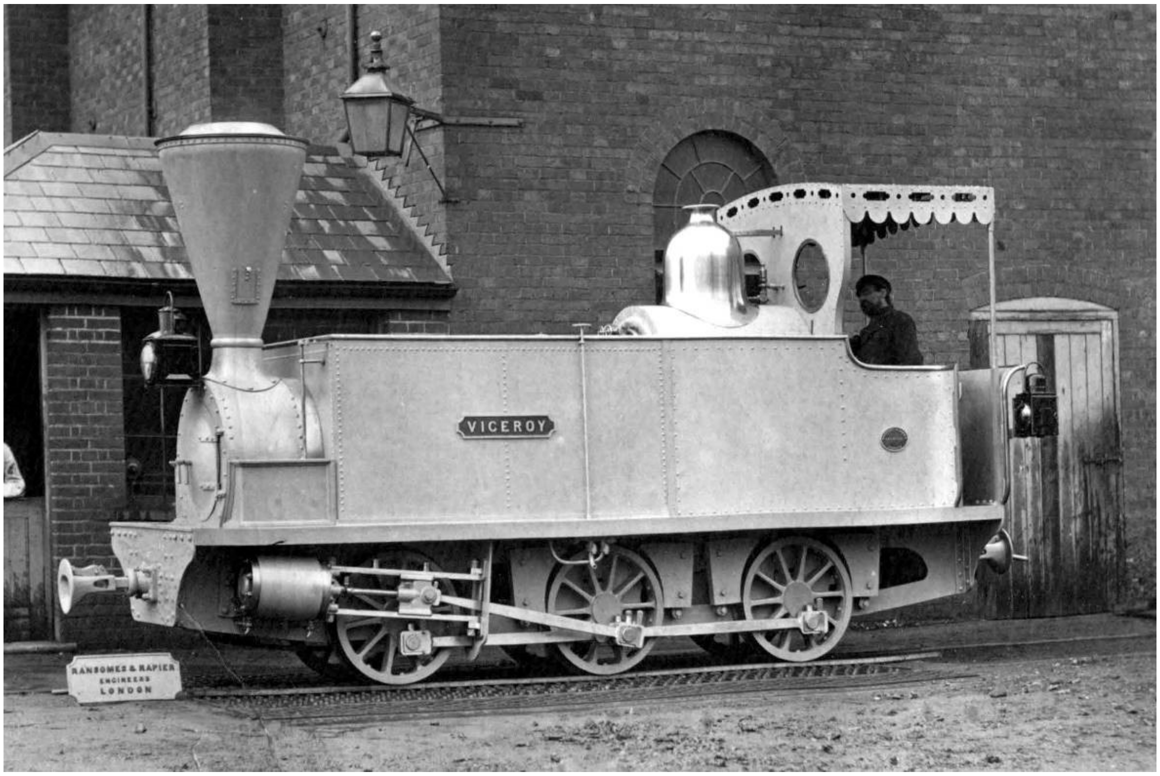
[5] 感谢基斯·哈尔顿提供的信息，参阅：哈尔顿：《兰塞姆和雷皮尔机车》，英国：窄轨铁路学会，2000。



0-6-0 式"天朝号"机车于 1875 年在兰塞姆工厂拍摄的照片。



0-6-0 式"华国号"机车于 1876 年在兰塞姆工厂拍摄的照片。



0-6-0 式“总督号”机车于 1877 年在兰塞姆工厂拍摄的照片。该车在吴淞铁路被大清政府拆除前的一个月才运抵上海。

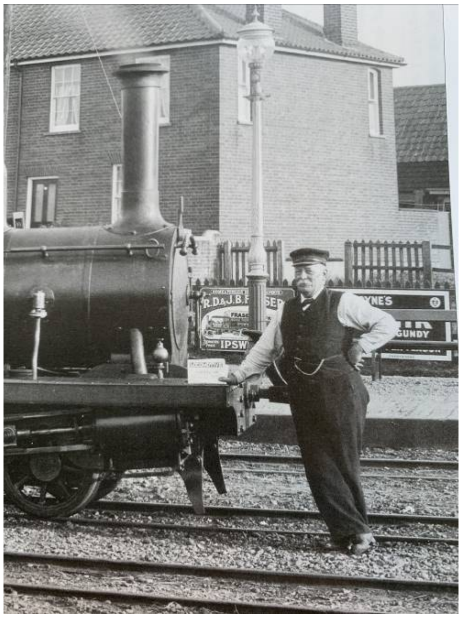
1877 年吴淞铁路中止运营并被拆除后，包括四台机车在内的全部铁路器材即被运送至台湾府[6]，以备用于兴建台湾铁路。然因台湾气候潮湿，加之维护不利等原因，淞沪路机车在运抵台湾后，迅速风化损坏，无法继续使用。这批机车最后于 1883 年被运回至旅顺港，用于港区军事要塞的修筑工作[7]。有一篇刊登于 1886 年 1 月 26 日版《中国邮报》的报道曾提到：有两台机车在“一个月前”于亚瑟港（抚顺港）正面相撞。这篇报道中所提到的机车有很大可能就是先前归属于吴淞铁路的窄轨机车。

---

[6] 台湾府是台湾的旧称。

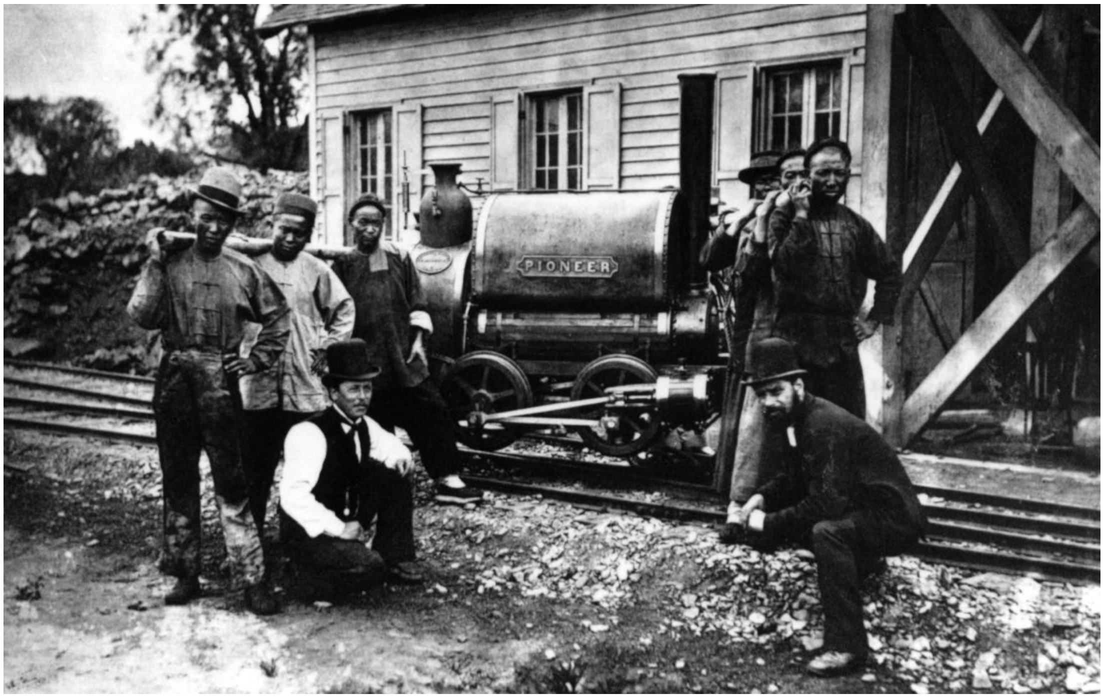
[7] 参阅：吴小红：《重回清代台北车站：古铁道和一座谜样的火车站》，台湾，2006。

威廉·乔治·杰克逊——中国第一位火车司机



威廉·乔治·杰克逊在绍斯沃尔德铁路

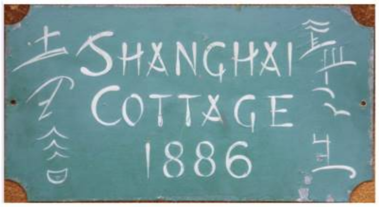
在吴淞铁路极其短暂的营业周期中，仅曾有过三名机车司机[8]就任于该路，在这其中兼为机务主管的威廉·乔治·杰克逊被认为是中国铁路历史上的第一位火车司机。他在吴淞铁路工作时的影像，被有幸捕捉并保存了下来。在吴淞铁路被废止之后，杰克逊回到了英格兰，投身于绍斯沃尔德窄轨铁路的建设。在这条位轨距为 3 英尺的铁路完工后，杰克逊继续留任该路，作为机务主管完成了他漫长的铁路生涯。



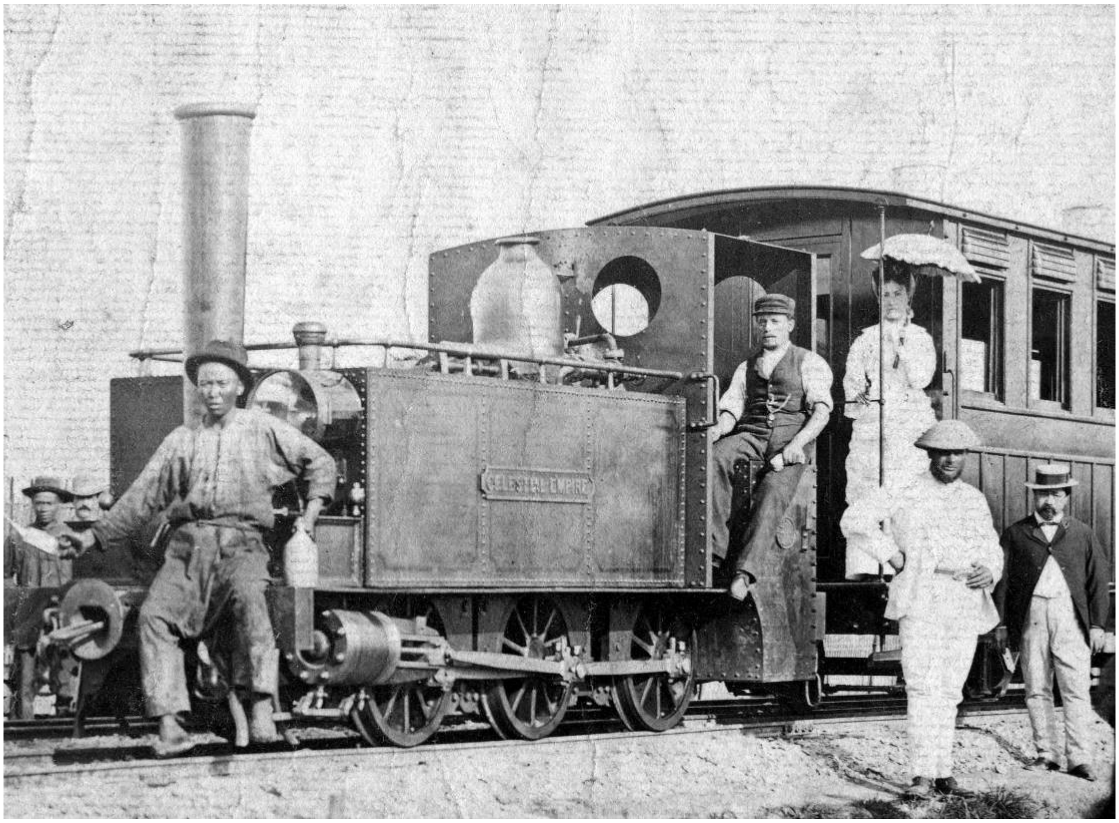
在“先导号”于 1876 年 2 月 14 日首次试车前，中国工人用竹竿将机车抬放至铁轨上。照片左前方半跪着的人被认为是威廉·乔治·杰克逊——中国第一位火车司机

---

[8] 另外两名司机为戴维·爱德华·班克斯和乔治·萨德勒



当杰克逊回到英格兰的绍斯沃尔德后，他搬进了一座小农舍居住。当地的报社曾报导过：杰克逊为自己的农舍制作了一个铁牌作为装饰物，这个铁牌上写有他赋予农舍的名字——上海农舍，同时也装饰有几个似乎是汉字的符号。绍斯沃尔德窄轨铁路停运很多年之后，一名来自沙福克博物馆的志愿研究学者曾尝试证明关于“上海农舍“故事的真实性。不久之前，志愿者在一堆老物件中发现了尘封已久的杰克逊农舍铁牌[9]，于是这个关于”上海农舍“故事自然而然地被证实为真。

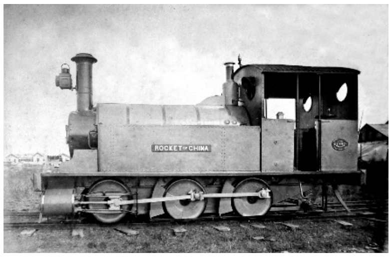


照片中“天朝号“的司机通过排除法被认为是威廉·乔治·杰克逊

---

[9] 我很感谢沙福克博物馆的志愿者——约翰·曼为我提供了杰克逊本人和他“上海农舍“铁牌的照片。约翰·曼也帮助我从多幅吴淞铁路的照片中辨认出杰克逊。

二、天津德科维尔展示铁路



1881 年底，在吴淞铁路被拆除之后第四年，中国第一条准轨铁路——唐胥铁路[10]（又称开平煤矿铁路）在北方的一个偏远地区悄悄然地完工了。随之出现还有中国第一台在本土生产的铁路机车——2-4-0 式水柜机车（左图）：这台简易机车是由英国工程师金达（Claude W. Kinder）使用升降机锅炉及废弃零件改装而成的。这台机车被英籍员工称呼为“中国火箭号“，以此纪念具有里程碑意义的英国机车——”火箭号“。而唐胥铁路的中国员工，在目睹了蒸汽机车开动时吞云吐雾般的雄姿后，将其惊呼为”龙号“机车[11]。次年 10 月，因为开平煤矿产量增加，”龙号“机车不敷使用，开平铁路公司又从英国纽卡斯尔的史蒂芬森工厂添购了两台 0-6-0 式水柜机车[12]。

一张很罕见的李鸿章与德文郡公爵的合影，拍摄于 1896 年，李鸿章到访英格兰之时。

唐胥铁路因由中国人拥有和运营，不受外国资本所控，又有李鸿章[13]及醇亲王奕䜣等洋务派官员的支持，遂未受清廷过多阻挠。1886 年，开平铁路公司获准将铁路向南延申至芦台，以便联合水运向天津输送煤炭。不久之后，一向反对修筑铁路的清廷保守派官员终于屈服，中国正式开启铁路扩张时代[14]。

在获知中国有意大范围发展铁路后，外国的各铁路设施厂商争先来访中国推销产品，其中就包括专注于生产轻便工业用及军用铁路设施的法国德科维尔公司。该公司的创始人保罗·德科维尔在试验过不同的轨距的窄轨铁路后，选择将拥有快速铺设能力的 600mm 窄轨产品，作为该公司的主要发展方向。

1886 年 11 月，德科维尔公司的中国代表——加斯顿·加利，在其针对粤港地区的推销之行宣告失败后，转战至中国北方洋务运动的先驱城市——天津。他带来了一套包含有机车、车厢、轨道在内的轻便铁路设施。加利同时还与英国怡和洋行签署了一份合作协议，意图向大清政府销售整套的轻便铁路设备[15]，用于开通光绪皇帝在紫禁城内的私人观光铁路。然而，一位名为特费内特[16]的供应商以更低廉的价格，赢得了这条铁路的器材订单。[17]

---

[10] 唐山至胥各庄

[11] 一对由黄铜镌刻的飞龙装饰被分别镶嵌在机车两侧的水柜上，参阅：柯睿思：《关内外铁路》，北京：新华出版社，2013，ISBN 978-7-5166-0564-6。

[12] 参阅：柯睿思：《关内外铁路》。

[13] 李鸿章时任直隶总督，英文时常将总督译为“Viceroy“。

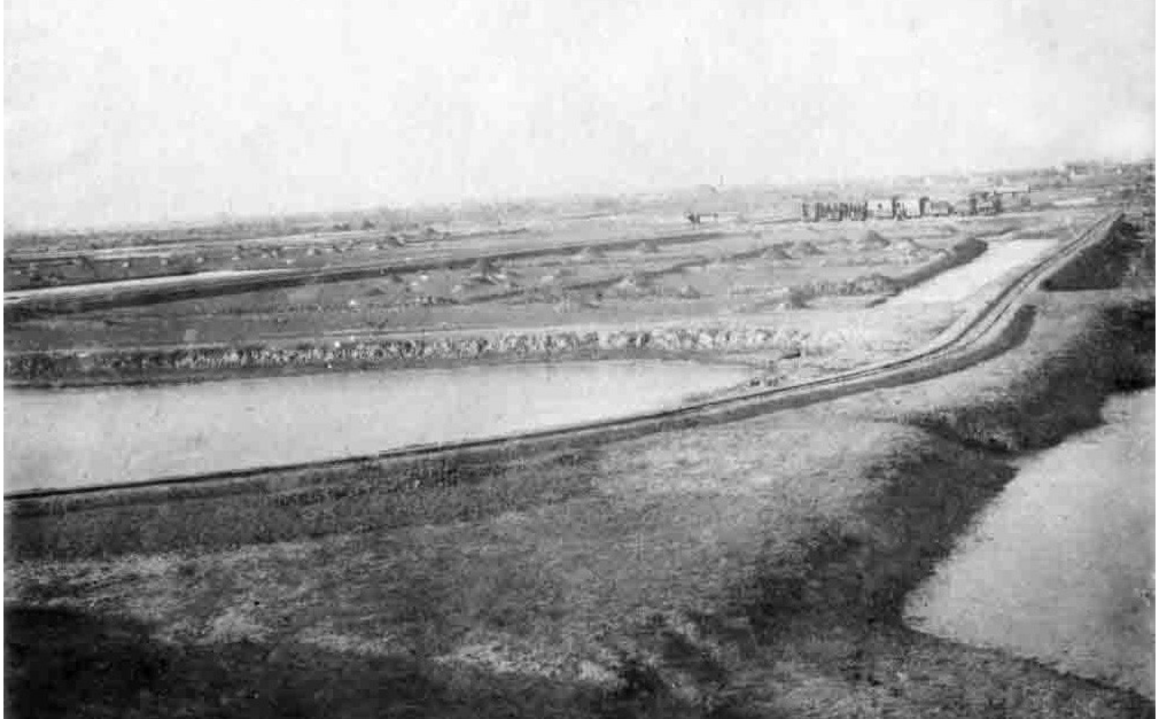
[14] 参阅：柯睿思：《关内外铁路》。

[15] 参阅：玛吉·凯斯维克：《蓟与玉：怡和洋行 150 周年庆典》，英国，1982。

[16] 根据 1888 年版的《中国，韩国，日本等国编年史》可知，特费内特时任旅顺港港口改造工程的总监。

[17] 参阅： 1887 年 4 月 2 日及 1887 年 10 月 4 日的《中国日报》。

11 月底，据天津当地的报纸报道，加利先生的德科维尔展示铁路（以下简称为展示铁路），已于当月的 21 号举行开通典礼，直隶总督李鸿章同多位官员一同参观了这条铁路。经查，出席开通典礼的要员包括：时任天津邮政海关总办的英籍德裔——古斯塔夫·冯·德璀琳[18]、后被英国封为男爵的李鸿章幕僚——罗丰禄、法国驻天津领事——林椿、及德科维尔公司的工程师兼中国代表——加斯顿·加利。这条长度仅为 3 公里的环形展示铁路，铺设在曾兰生先生[19]（李鸿章的英语翻译）位于天津市郊的私人宅邸附近。[20]



德科维尔展示铁路的临时性轨道铺设在天津近郊的一片泥洼地上，远处的轨道上可看到一列小型列车。

对于展示铁路的开通，天津的多家当地报纸都对此事件进行了报道。虽然这些报道的细节内容略有出入，但可以确定的是，展示铁路所运行的列车是由机车、四节客车厢、及一节行李车厢组成的。两个月后，法国巴黎的一家时兴杂志——*L'Illustration - Journal Universel*，也刊登了关于天津德科维尔展示铁路的报道，杂志还精心配上了整版的版画插图。[21]

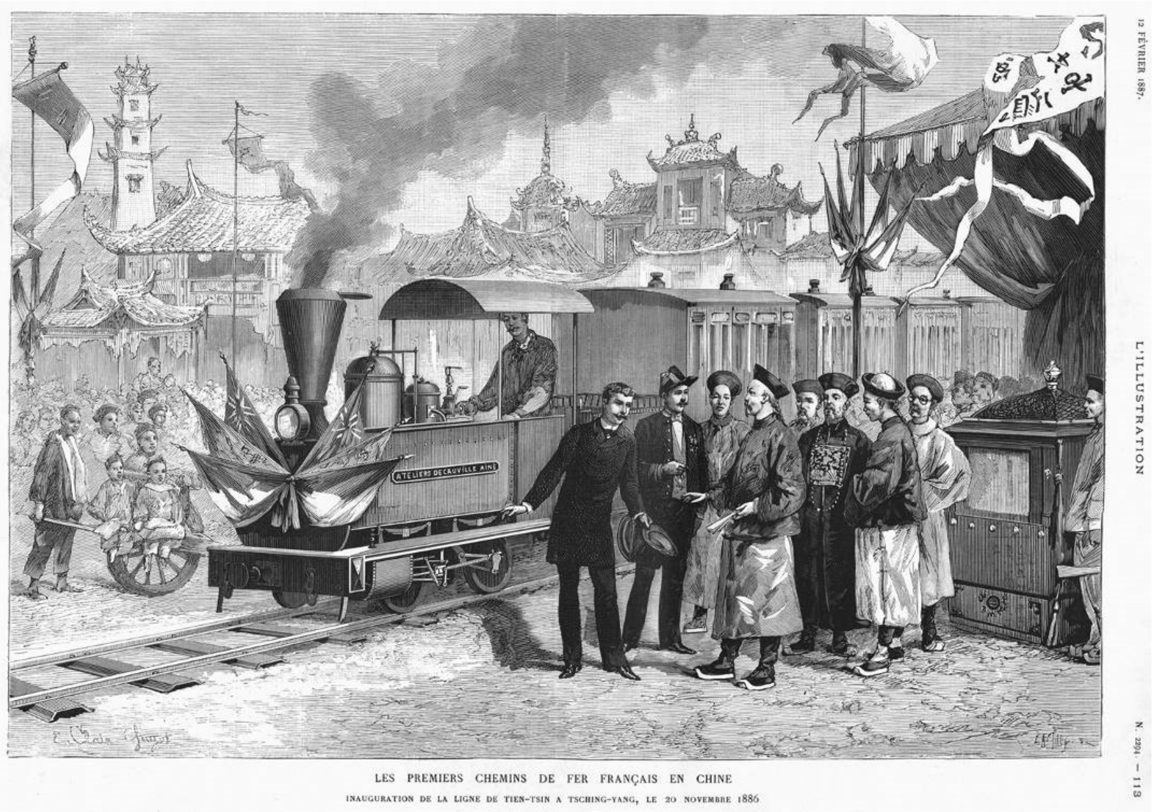
---

[18] 德璀琳在 1880 年代还担任过天津市议会主席，投身于天津的市政、邮政、海关、税务、教育、绿化等各项事业。他与李鸿章私交甚笃，曾在多项外交事务中给予李鸿章支持与协助。

[19] 曾兰生，1826 年生于新加坡，父为广东农民，母为马来人。双亲早亡后，先在美国领事馆担任侍应，结识美国传教士后，被送至美国接受高等教育。曾返回中国后，先在粤港地区为欧洲商团工作，后前往上海，担任李鸿章的英语翻译。

[20] 参阅：1886 年 11 月 27 日及 1886 年 12 月 25 日的《中国日报》。

[21] 参阅：“*L'Illustration - Journal Universel*”，89 卷，2294 期，1887-2-12。



LES PREMIERS CHEMINS DE FER FRANÇAIS EN CHINE

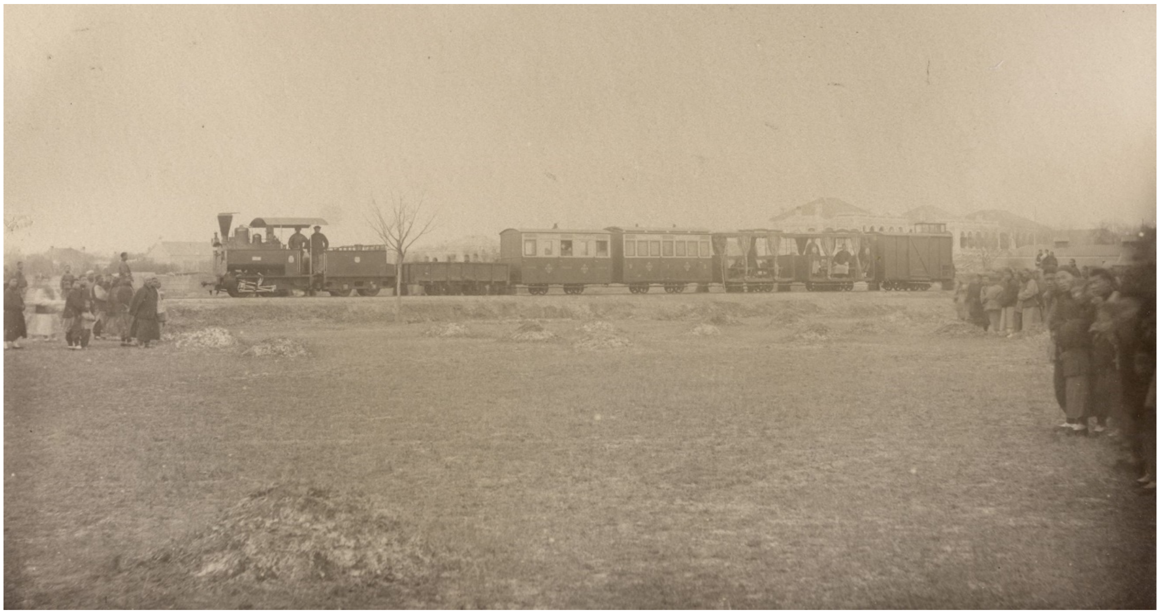
INAUGURATION DE LA LIGNE DE TIEN-TSIN A TSCHING-YANG, LE 20 NOVEMBRE 1886

杂志中描绘天津展示铁路通车情形的版画

绘制这幅版画的艺术家，虽很可能没有亲历天津展示铁路的开通典礼，但法国人与生俱来的文艺气质，赋予了他足够的想象空间，以描绘出他未曾目睹过的景象。这位艺术家在插图中刻画了精致的中式建筑、宝塔、寺庙和一队身着华丽丝绸长袍的清廷官员，演绎出工业时代的铁路在远东古老国度开通之时的奇诞情形。根据报道中的描述还可知：机车前方的六面旗帜为大清、英国及法国的国旗。在杂志的插图中，一块写有“Ateliers Decauville Aine”的铭牌被添绘在机车水柜的侧面，以向读者表明该机车的制造者为法国的德科维尔工厂。但事实上，德科维尔工厂的生产记录并无法证实该厂确为展示铁路机车的生产商。而另一份送货清单中所提到的一台比利时产机车，才似乎更有可能是该铁路所使用过的机车。这台比利时机车于 1884 年由库伊耶工厂生产，制造序列为第 740 台，曾先后被一家法国船运公司和一家煤矿所拥有。[22]

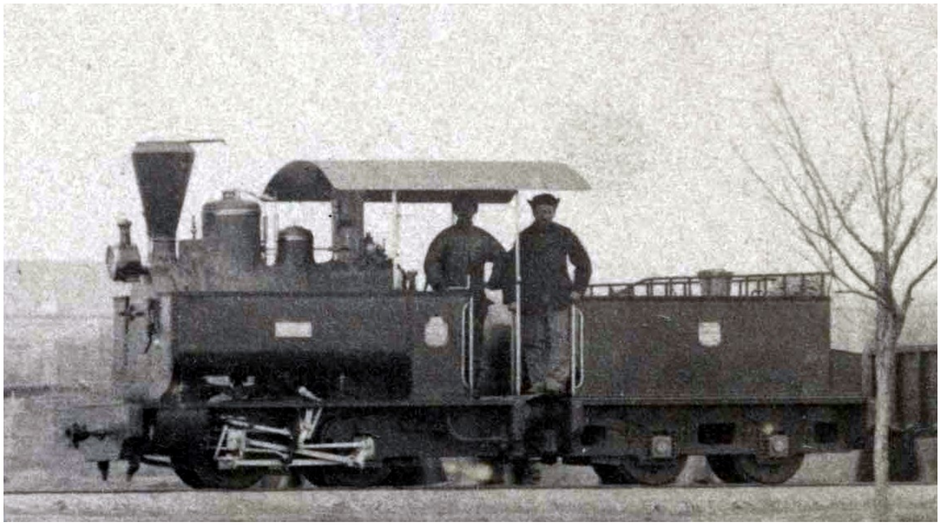
---

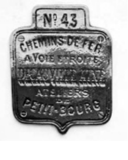
[22] 信息整理自：克林根、拉纳姆：《德科维尔工厂制造清单》，工业铁路协会，1995；及其他存世的德科维尔产品目录。感谢杰夫·拉纳姆、罗伯特·普理查德、罗宾·吉本斯、鲍勃·科赫及其他人士给出的建议，以达成“机车很大可能是由比利时库伊耶工厂为法国德科维尔公司提供”的共识。



天津德科维尔展示铁路唯一的列车，是由一台以木头为燃料的 0-4-0 式机车及一节敞车、两节封闭式客车、两节开放式客车及一节棚车组成的。[23]

我最近有幸购买到了一张非常珍贵的老照片（见上图），它是我迄今为止见过最清晰的关于天津德科维尔展示铁路的影像记录。

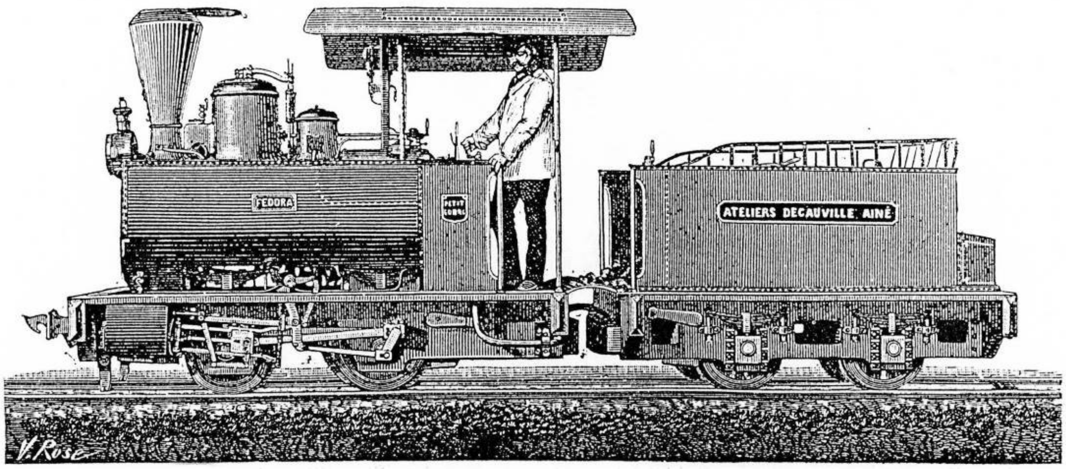




将照片放大后，即可通过车身铭牌的形状确定：展示铁路的这台机车确为德科维尔公司在早年间向比利时库伊耶工厂购买的机车。此外，在 1887 年德科维尔产品目录里的一台由库伊耶代产、空重为 4 吨、轨距为 600mm 的 “费朵拉” 式机车（见下图），与我近期购买的照片中的机车十分相似；这本德科维尔产品目录还提到：该公司自 1880 至 1885 年间的所有机车皆购买自库伊耶工厂。这些信息完全印证了我先前对于展示铁路机车生产厂商的推断。[24]

---

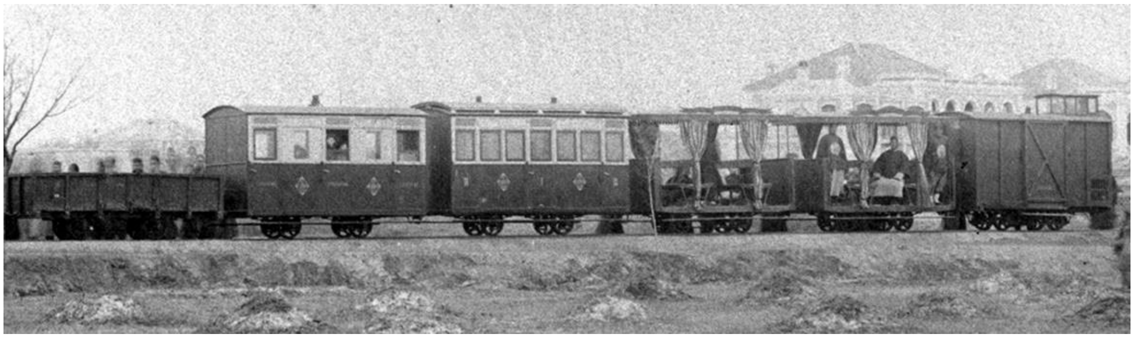
[23] 照片来自作者的私人收藏



Type nº 3 de 5 T. à vide (6 T. en marche), avec cabine pour les pays chauds, foyer à brûler bois ou charbon et cheminée américaine, pouvant avec son tender conduire un train de 15 tonnes à 50 kilomètres en 2 heures et demie sans arrêter.

1887 年德科维尔产品目录中，由库伊耶工厂生产的"叁"式（"费朵拉"式）机车。天津展示铁路所用的机车与目录中的机车，除铭牌样式不同之外，其余特征均完全吻合。[25]

当今，仍有两台与天津展示铁路机车相同型号的 500mm 或 600mm 窄轨机车，被分别保存于葡萄牙的坦科斯军事博物馆及澳大利亚墨尔本附近的普芬比利铁路。其中，普芬比利铁路所拥有的 1889 年产、制造序列为第 986 号的"费朵拉"式机车被完好地保存了下来，该机车至今仍可升火运行，牵引观光火车。[26]



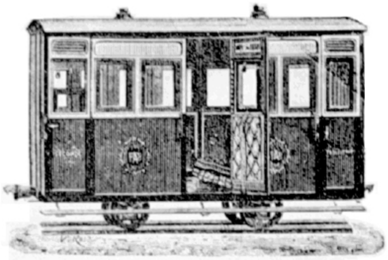
将老照片中车厢的部分放大后可以观察到：机后第一节低帮敞车似乎也被用来搭载乘客；在敞车之后的是两节封闭式客车厢，在其中第三节车厢的车门上，可以隐约看到表示客室等级的"I"、"II"标志；第二节车厢车门上的标记，虽在这张照片中难以辨认，但根据 *L'Illustration* 杂志中的描述可知，该节车厢上的标记为"Premiere"，意为头等车厢；紧随其后的是两节开放式客车厢，在靠后的车厢中可明显看见两位身着丝制长衫的乘客，其中正襟危坐者很有可能就是曾兰生先生，即远处西式风格宅邸的主人。

---

[24] 参阅：罗格·巴伊：《德科维尔——传遍世界的名字》，1989。

[25] 不同文献中对于该机车重量的描述有出入。

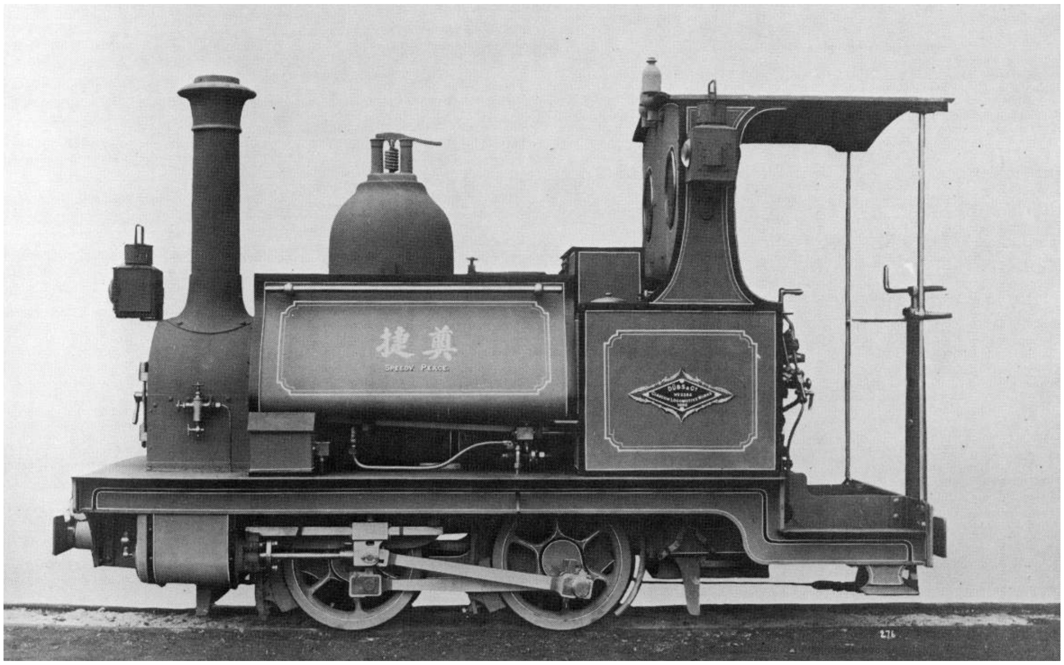
[26] 两台留存下来的库伊耶制窄轨机车的照片，请参阅：
http://www.internationalsteam.co.uk/trains/portugal03.htm、
http://members.ozemail.com.au/~telica/Puffing_Billy_Gasworks_loco_Carbon.html。



Type D, voiture mixte de 1^{re} et 3^{e} classe (poids 1,350 kilos).

在一张印发于 1889 年巴黎万国博览会时期的广告传单上，曾出现过一种和展示铁路老照片中第三节车厢相同的窄轨铁路车厢。根据广告可知：这种车厢每节有三个独立客室，这包括了一个置于车厢中间位置，可容纳六名乘客的全尺寸客室，和两个分别置于车厢两端，可容纳三名乘客的半尺寸客室。每个客室都有其各自的车门，供旅客乘降列车所用。此外，该车厢客室等级的设置很具有灵活性：铁路公司在订购该车厢时，可要求将其三间客室设置为统一或不同的等级。展示铁路老照片中，第三节车厢“二等、一等、二等”的客室等级设置，即为该型号车厢的“D”型配置。[27]

德科维尔展示铁路在 1886 年 11 月底开通后，作为游乐设施仅运营了大约一个月，当地居民乘坐头、二、三、四等车厢的票价分别为 30、20、10、5 分钱。展示铁路停业后，机车车厢等设施被天津市议会收购，用于为新市政大楼工程运输施工材料。1892 年，曾经属于展示铁路的设施器材被全数废弃。[28]



1886 年，英国杜布斯工厂生产的 600mm 轨距 0-4-0 式“奠捷号”机车（制造序列第 2254 号）。

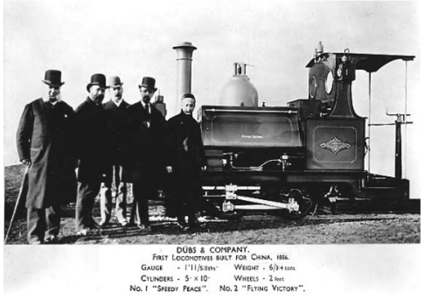
与德科维尔公司合作的英国怡和洋行，对于加斯顿·加利未能在中国推销出任何产品感到非常的恼火与失望，旋即寻求与其他机车制造厂商合作。为了继续向中国销售铁路设备，怡和洋行赤巨资向英国格拉斯哥的布杜斯工厂，订购了两台 600mm 轨距的 0-4-0 式水柜机车。[29]这两台机车被分别命名为“Speedy Peace”（奠捷号）及“Flying Victory”。

---

[27] 图片来自 1953 年版的德科维尔协会成立周年纪念册。

[28] 参阅：《天津市议会报告》，载《华北先驱报》，1892-1-24。

[29] 参阅：玛吉·凯斯维克：《蓟与玉：怡和洋行 150 周年庆典》，英国，1982。

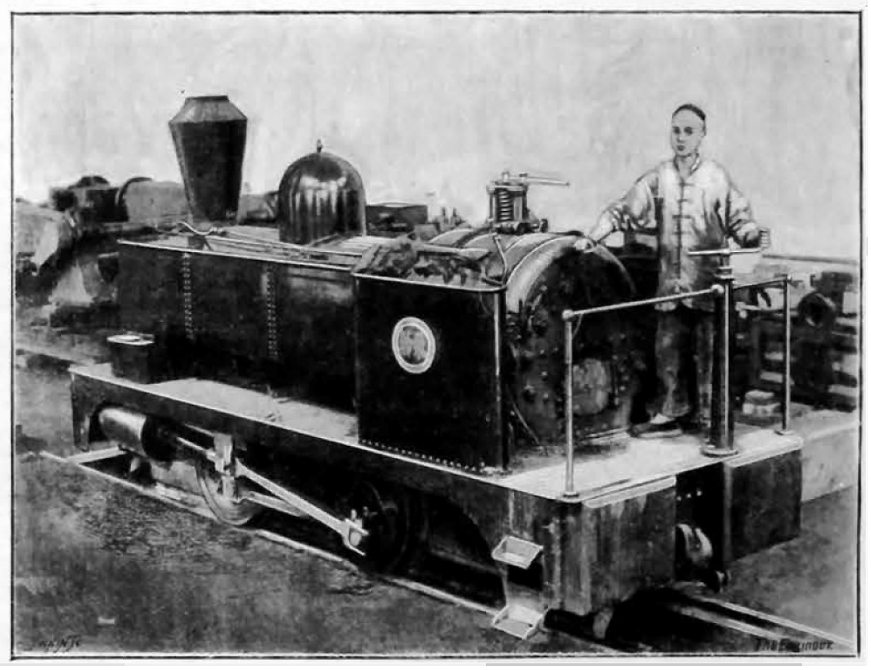

DÜBS & COMPANY.
FIRST LOCOMOTIVES BUILT FOR CHINA, 1886.
GAUGE - 1'11 5/8ths WEIGHT - 6 3/4 tons
CYLINDERS - 5" × 10" WHEELS - 2 feet
No. 1 "SPEEDY PEACE". No. 2 "FLYING VICTORY".

然而，这两台英国机车的下落至今还是一个未解之迷。唯一可以确定的是，它们从未出现于任何现存的关于天津展示铁路的影像资料中。

一些当代文献曾提出：这两台机车在被运抵中国后，曾出售给了开平铁路公司，用于唐胥铁路（北宁铁路前身）延长线的建设工程。但我目前还未发现任何史料能证实上述观点。在唐胥铁路大量的存世照片中，亦未发现该路曾使用窄轨机车铺设铁路的证据。因此，这两台英国窄轨机车的身世之谜，尚待其他执迷于研究中国铁路历史的学者进行考证。[30]

三、中国首台本土制造机车之争

虽然金达于 1881 年制造的“中国火箭号”机车，早已被各种史料证实为中国第一台在本土生产的铁路机车。但还有一些所谓的中国铁路专家，执迷不悟地在各类出版物，甚至在国际会议上宣称：一台被称呼为“蚂蚱”简易机车[31]才是在中国制造的首台机车。这台“蚂蚱机车”实为英国工程兵团在 1900 年义和团事件后，利用报废零件拼凑而成的临时机车。除“蚂蚱机车”之外，还有另一台机车也被认为是在中国本土生产的首台机车。



---

[30] 藏于剑桥大学的怡和洋行档案有可能就是解开这两台机车身世之谜的关键线索。

[31] 参阅：柯睿思：《一台中国早期机车身世之谜》，https://www.researchgate.net/profile/Peter-Crush/publication。

1890 年，一位身份不明的作者在 1898 年 5 月 20 日版的《工程师》杂志中声称：金达的“中国火箭号”机车不应被认为是在中国本土制造的机车，因为该机车所利用的报废零件都产自海外。这名作者还指出：一个叫“邦特先生”[32]的人（我怀疑这个“邦特先生”就是这位作者的上司）于 1890 年在上海江南制造总局，自制了一台 0-4-0 式水柜机车。该机车总长约为 4.5 米，动轮直径为 762mm，气阀规格为 248mm x 381mm，轨距为 610mm，用于在厂区内运输物料。 作者声称这台机车除极小部分零件外，其余部分都由江南制造总局自行制造，所以他主张这台窄轨机车才是真正意义上的“在中国本土制造的首台机车”。

我把“谁才是中国第一台本土生产机车？”这一极具争议问题留给我的读者去决定。

《中国早期窄轨铁路》系列的下篇文章将探讨清皇宫中的皇家观光铁路——紫光阁铁路，敬请关注。

---

[32] 根据 1889 年版的《东亚各国编年史》可知，托马斯·邦特时任上海江南制造总局的总工程师。